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WOMAN:

HER

DISEASES AND REMEDIES.

A SERIES OF

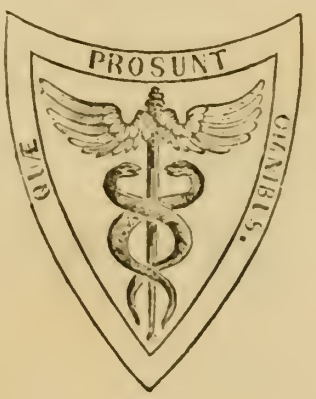
LETTERS TO HIS CLASS.

BY

CHARLES D. MEIGS, M. D.,

PROFESSOR OF MIDWIFERY, AND THE DISEASES OF WOMEN AND CHILDREN, IN THE JEFFERSON MEDICAL COLLEGE AT PHILADELPHIA; MEMBER OF THE AMERICAN MEDICAL ASSOCIATION; OF THE AMERICAN PHILOSOPHICAL SOCIETY, AND OF THE COUNCIL; VICE-PRESIDENT OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA; LATE ONE OF THE PHYSICIANS TO THE LYING-IN DEPARTMENT OF THE PENNSYLVANIA HOSPITAL;
ETC. ETC.

THIRD EDITION, REVISED AND ENLARGED.



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PHILADELPHIA:
T. K. AND P. G. COLLINS, PRINTERS.

TO THE

STUDENTS OF MY CLASS,

IN THE

SESSION OF 1846-7,

THIS VOLUME

IS RESPECTFULLY AND AFFECTIONATELY

Dedicated,

BY

THEIR GRATEFUL FRIEND,

THE AUTHOR.

PREFACE TO THE THIRD EDITION.

I AM happy to offer to my class a Third Edition, much enlarged and carefully emended, of my Letters on the Diseases of Woman, and I avail myself of the occasion to return my sincere grateful acknowledgments to my professional brethren in general, by whose favor the work has succeeded so well.

It will be found that I have not neglected this opportunity to render these Letters more worthy of regard than they were when first issued from the press; and I repeat that it is an anxious wish of my heart, that of placing on the shelves a useful and original American medical work. Should my life be spared to superintend yet another edition, I shall hope by that time to have rendered the style and language still less exceptionable.

CHARLES D. MEIGS.

324 WALNUT STREET, May 1854.

AN INTRODUCTORY LETTER TO A FRIEND.

Dear Sir:

I send you a new Medical book, which I beg you to accept as a testimonial of my respect and affection. I have not dedicated it to you, because it belongs to the Gentlemen to whom I addressed the Letters of which the volume consists. I shall be obliged to you if you will look at it, and tell me whether you think I have committed an unpardonable breach of the forms of our Science, in writing with such a freedom and *abandon* as you shall here find; for I might say with Juvenal—

> "Quicquid agunt homines, votum, timor, ira voluptas,
> Gaudia, discursus, nostri est farrago libelli."

Dr. Forbes, in his farewell article, in the *British and Foreign Medical Review*, tells us it is a lamentable truth that the eminent practitioners of England neither read nor buy medical books; and I fear a chief reason of it is to be found in the dulness and jargon which characterize so many medical writings. I am sure that, exclusive of such as treat of the Physiology of Man, many of them are very tiresome and disgusting; for the Doctors seem not to have heeded the lines of Horace, who says:—

> "Omne tulit punctum qui miscuit utile dulci,
> Lectorem delectando pariterque monendo."

According to my poor ability, I have endeavored in these Letters, while telling the truth about our Science and Art, to avoid the dulness; and, in doing so, I have ever thought the honestest way for a man to speak is to speak what he thinks, in his own tone and manner, and not to come before the public under a false disguise. The young gentlemen who composed my Class were accustomed, all winter, to hear me say just whatever the occasion prompted me to say to them, without any reservation of mine, from distrust of them; for I went into the Lecture-room with my heart in my hand open before them, and it is in the same

fashion that I have sent them these Letters. Indeed, when on the spur of an occasion I promised to write for them, I engaged to adopt the most familiar style, saying, "I will write in the same language I should address to any one of you, whom I might be instructing, in my library here at home." You will see that I have kept my promise.

Whether such a mode of writing might prove agreeable to the brethren, so as to meet their approbation, remained to be seen. If I should fail in this attempt, I may still hope that some one else will invent a new and happier method than mine to get rid of our medical dulness, and our time-honored clergyableness. To judge of the medical student of the present day, by comparing my own student-life with his, I cannot but think he must daily find the books as tedious and uninteresting as they used to be when you and I were young men like them.

As to the doctrine and the precept of these Letters, I might well suppose I have a right, at this stage of my life, to be heard upon them—and having felt it an occasion of self-reproach that I could never find time, in the winter curriculum, to fulfil my duties as Lecturer on Diseases of Women and Children, I have taken occasion by speaking to my Class through the press to supply the deficiency. In doing so, I could not but stand before the public.

Flaccus says "*Scribendi recte, sapere est et principium et fons.*" You will be able to judge whether I have said that which is naught as to the diseases treated of herein. Certainly, I have had much opportunity to see the things spoken of, and if the book turns out useless or disagreeable, mine is the fault. You, who have seen so much, may well become my competent and dispassionate judge.

Let me tell you, though, my dear Hodge, that the whole of these 666 pages have been begun and finished since the month of May last. They, therefore, have no claim to the *nonum prematur in annum* merit; and I wish you to understand that I have been obliged to do the whole of the work in addition to my diurno-nocturnal task of visiting the sick. I cannot, under these circumstances, expect for it the same consideration as might be due to essays carefully revised and finished; and I have a just right to make this apology.

But, shall people, who desire to make a contribution to the art that has absorbed their whole existence, refrain from doing so from a fear of offending in the matter of their manner? Would that be American-like? And shall everybody go out of the world making no sign? Beaufort was asked but to hold up his hand, but "he died, and made no sign."

I wish you would make a sign for us; we all wish so.

I have made this apology to you, because I look upon you as a chief representative of Medicine, on this topic, in the United States: and, as I desired to say a few words to the Brethren, in general, in addition to all I have said in these Letters to my Students, I trust that in saying these things to you, in whom they have confidence, I am, towards them, absolved as to apologies. As to my personal feelings towards you—did we not sit on the same benches at the lectures?—and have we not interchangeably assisted us with counsel and with dexterity, in our vocation these thirty years?—What more!

I pray God to prosper you long; and to allow the City, and the Country, to enjoy, for many years, the advantages of your skill, the honor of your well-earned reputation, and the benefit of your public instruction, as well as your private example as a minister of your philanthropic calling. Farewell, dear doctor, and believe me very faithfully

Your affectionate friend,

CHARLES D. MEIGS.

November, 1847.

To Hugh L. Hodge, M.D.,

Professor of Midwifery, and Diseases of Women and Children, in the University of Pennsylvania.

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WOMAN:

HER

DISEASES AND REMEDIES.

LETTER I.

MOTIVES FOR WRITING.

Gentlemen: When I took leave of you, at the close of the session of our Lectures of the last of February, 1847, I engaged to address to you a series of Letters, in which I should endeavor to lay before you my views upon some of the disorders of women; and you may remember that, on the same occasion, I requested each one of you to consider these letters as addressed to himself. I felt that I had not fully discharged the obligations of my professorship as relates to disquisitions upon the sexual maladies; and I explained to you that the time allowed for a course of lectures on obstetrics and diseases of women, a period of only four months, is too short to permit any one fully to describe all the diseases to which our females are liable.

Notwithstanding I had taken advantage of every open occasion to describe the phenomena and treatment of the disorders and accidents of the various structures it was my province to demonstrate, still there was much, it was incumbent on me to say, which the shortness of your sojourn here would not allow me leisure to say to you.

While I enjoyed the satisfaction of meeting you in the Lecture-room, I felt that my happiness was to be esteemed great, in the privilege I had of addressing so considerable a number of gentlemen, all patiently and politely receiving the instruction I was able to convey upon very important points of a business which is related to some of the most delicate and hazardous periods of female existence. The labor of the task was always alleviated by the reflection that in endeavoring to do good I might hope to win, at the same time, your kind regards, and Lu-

cretius allows this sentiment to be proper in admitting it as his own consolation, in the lines

> "Sed tua me virtus tamen et sperata voluptas
> Suavis amicitiæ, quemvis efferre laborem
> Suadet."

I need not repeat the assurances I gave at parting with you, that I was filled with painful emotions in bidding you farewell, for I could not be insensible to the goodness you had so steadily manifested towards me, nor to the admirable conduct of the whole class; a conduct which reflects the highest credit upon them, as demonstrating their fine sense of what is due both to themselves and to their teachers—whom they highly distinguish and honor by such consistent and admirable deportment.

To address these letters to you now, seems to renew our late delightful intercourse; and should I be permitted in the course of them to assist you, and strengthen your hands in your great mission of usefulness and benevolence, I shall be thankful to Him by whose Providence I have been allowed, these now many years, to observe and contemplate the affections of which I am about to treat. Farewell. C. D. M.

LETTER II.

GENERAL REMARKS ON CONDUCT.

Gentlemen: The relations between the sexes are of so delicate a character, that the duties of a medical practitioner are necessarily more difficult, when he comes to take charge of a patient laboring under any one of the great host of female complaints, than where he is called upon to treat the more general disorders, such as fevers, inflammations, the exanthemata, &c., to which the gentler, like the ruder sex is liable. So great, indeed, is the embarrassment arising from fastidiousness on the part either of the female herself, or of the practitioner, or both, that, I am persuaded, much of the ill success of treatment may be justly charged thereto.

It is to be observed that a very current opinion exists as to the difficulty of effectually curing many of the diseases of women; and it is as mortifying as it is true, that we do often see the cases of these disorders going the whole round of the profession, in any village, town, or city, and falling, at last, into the hands of the quack; either ending in some

surprising cure, or leading the victim, by gradual lapses of health and strength, down to the grave, the last refuge of the incurable, or rather the uncured: I say uncured, for it is a clear and well-known truth, that many of these cases are, in their beginning, of light or trifling importance—cases where the constitution takes no part in affections of tissues or organs, and which, when slightly modified by disease, may long continue to be so without provoking any disturbance in the harmony of the other great organs; as, for example, those of the circulation, nutrition, respiration, and innervation. Yet, by neglecting such affections in their rise, on the one hand, or by imprudently treating them by violent and disturbing therapeutical or hygienical methods on the other, the whole constitution may at last come into sympathy with the deranged member of it; and the health, the usefulness, and so, the happiness or life of the mismanaged and misinformed female, are sacrificed.

All these evils of medical practice spring not, in the main, from any want of competency in medicines or in medical men, but from the delicacy of the relations existing between the sexes, of which I spoke; and, in a good degree also from want of information among the population in general, as to the import, meaning, and tendency of disorders, manifested by certain trains of symptoms.

It is, perhaps, best, upon the whole, that this great degree of modesty should exist, even though it go to the extent of putting a bar to special researches without which no very clear and understandable notions can be obtained of the sexual disorders.

I confess I am proud to say, that, in this country generally, and particularly in some parts of it, women prefer to suffer the extremity of danger and pain rather than waive those scruples of delicacy which prevent their maladies from being fully explored. I think this is an evidence of the presence of a fine morality in our society; but nevertheless, it is true that a greater candor on the part of the patient, and a more resolute and careful inquiry on that of the practitioner, would scarcely fail to bring to light, in their early stages, the curable maladies, which, by faults on both sides, are now misunderstood, because concealed, and, consequently, mismanaged and rendered at last incurable. What in fact, is it, in the human body, that can become disordered so secretly as to elude the exploratory powers of a well-educated medical man, allowed to make the necessary inquiries; or what is the disorder that may not, in its forming stages, be made to yield to the prescriptions of a learned and wise physician?

Can anything be done to obviate the perpetuity of this evil—one that has existed for ages? Is there any recourse by means of which

the amount of suffering endured by women affected with peculiar complaints may be greatly lessened?

I am of opinion that the answer ought to be affirmative, and I believe that the fault is chargeable to us; and that our fault consists in the concealment within our own breasts of a great amount of communicable information which it is our duty to pour forth into the public mind, and which we should certainly diffuse, spread abroad and make vulgar or common but for our clerkly or clergyable pride. The doctors have an idea that their knowledge cannot be imparted to the world, and that it is better, in fact, that the world should not be possessed of such recondite information as theirs. The people, too, are in general afraid of doctors —distrust and eschew them, except when they cannot help themselves. I believe, that if any medical practitioner knows how to obtain the entire confidence of the class of persons who habitually consult him; if he be endowed with a clear perceptive power, a sound judgment, a real probity and a proper degree of intelligence, and a familiarity with the doctrines of a good medical school, he will, as far as to the extent of his particular sphere of action, be found capable of greatly lessening the evils of which complaint is here made; and if these qualities are generally attached to physicians, then it is in their power to abate the evil throughout the population in general.

Can there exist any reasonable doubt that the country is abundantly supplied with such well-informed physicians; seeing that the land is filled with members of the profession who have enjoyed the best possible opportunities of storing the mind with all the lines and precepts of medicine, delivered down through a succession of ages, continually productive of ameliorations in the doctrines and the arts of curing disease? But such persons as these are worthy of the public confidence, both as to their morals and their understanding! They are, in general, worthy representatives of the style and character of the gentleman, and, therefore, capable of attracting the confidence of such as are under suffering.

I met, April 9th, 1847, with a case which shows how far the fastidious delicacy existing in the relation betwixt the sexes may be carried on the part of the physician. A lady, forty years of age, consulted me as to a painful menstruation she has had for twenty years. She experiences severe pain and disagreeable weight and pressure in the loins and hypogaster, and pain in the head for five or six entire days before each menstrual period; all which symptoms disappear with the first gushings of the evacuation. She represents her health to be the same now as for twenty years past. Hence, I presume, there has occurred but little change in the physicial condition of the parts, else there would be some change in the sensations arising from the malady. She has been repeat-

edly subjected to the taxis; but no one ever examined the os uteri with the speculum until to-day. Well, that examination reveals a certain state of the cervix and os uteri, and glands of Naboth, &c., which it was indispensable to know, in order to found a rational treatment. The delicacy existed, not on the part of the lady, but on that of the medical advisers; for I have her assurance that her sufferings, both bodily and mental, have been so great, that she should long ago have submitted to any means of even a probable cure; and was, indeed, always desirous to have everything done that was possible in her behalf. I doubt not this lady might have been cured long ago, had her malady been thoroughly understood.

I have mentioned this case to show how the physician may be in fault when he does not do his whole duty; for it is incumbent on him to leave nothing undone that may properly aid and comfort his patient. But let us return to our remarks upon the qualities that ought to distinguish the medical man.

I think that, in order to be a physician, one ought to enjoy strong perceptive faculties; he should be able to make nice discriminations—quickly perceiving the slightest shades of difference in all material forms, superficies, colors, weights, and resistance. The faculty of judging between the relations and differences of things should be of the primest quality; not sudden, hasty, and impatient in its operations, but slow, dispassionate, and attentive.

The mind and heart of the practitioner ought to be the shrine of truth and probity: his mind should not deceive itself, and his heart should not suffer itself to be deceived and misled by any earthly temptation from the narrow and rugged way of duty and conscientiousness.

His intelligence ought to be vast, as acquainted, very generally, with what is called knowledge and science by mankind. Particularly should he be fully informed as to the nature of the Life-force, as displayed in the various tissues and organs of any living economy; not in that of man alone, but in the whole zoological series, as well as in the vegetable kingdom of nature.

There ought to be no function of the economy, or of its parts, whose healthy rate he could not estimate, as well as all its deviations in sickness. But this is not all—he ought to be able to discern, not the signs only of maladies, but the tendencies of these maladies; as whether they possess a certain tendency towards recovery, or a tendency towards destruction; so as to enable him to say, as he does of a vaccine inoculation, let it alone, it requires no remedy, it carries the cure in its own nature, it will have disappeared, with all its phenomena, on the

eighteenth day. Or, on the other hand, take care of that headache; she is pregnant, and near term; know that such a headache is but a step removed from an eclampsia, and that an eclampsia is often the penultimate phenomenon of life. Let that case alone—cure this one.

Do you not perceive, young gentlemen, that such a physician is not of necessity a doser, a druggist; and that in a great moiety of the cases in which he is consulted, the patient will escape all physic and be cured by wise counsel—and likewise, that when therapeutical interference is required, he will know what to do, what medicines are required, and when, and how much?

It is often dangerous to ask a physician the question, what shall we do; because habit, custom, routinism, almost always compel him to say take—take.

Let me persuade you to form early, the resolution to give only the physic and the counsel that may be really required in the case. If you will form and live up to such a resolution, you will early triumph over your difficulties. You will early learn, that a large variety of the complaints made to physicians are complaints of pains, of disabilities, of fevers that require for their removal only that the patient should know their nature, causes, and tendencies. The Homœopaths treat multitudes of people by thus giving them not the least particle, but only the name, of a drug; and all those that recover under their guidance, give evidence of the great abundance of spontaneous cures.

You ought to be familiar with the doctrines of a good Medical School; by which I mean, not the doctrines of the University of Pennsylvania, or that of New York, or Maryland, or London, or Paris, nor the Jefferson College, but any school which has taught you a demonstrative anatomy, a real eclectic physiology, a sound and philosophical chemistry, &c. A school, in short, which has set before you, in full array, the results of man's achievements in medical investigation, experience, and art; leaving you, out of your own clear sound honest and capacious intellect, to become capable of saying, as to any case of disorder presented for your opinion, such is the malady, its tendencies are thus, or so, its treatment requires such and such methods. You should judge the case by the case, and by no other law or evidence.

Be not methodists—on the contrary, be men of principles in medicine; principles, which like the genii of the Persian fable, come at your bidding and do your bidding, for no one can be taught to cure diseases by a method. Method in medicine is beneath contempt; because, owing to the infinite variety and differences existing among the living molecules that are the subjects of the vital forces, there never were, nor can be, two absolutely similar cases. Each instance of disease is

an integer, and should, in strictness, be so deemed, and studied, and understood, and managed upon a reference to it, and not to another integer. Old Paul Barbette, in speaking of that mysterious disease, the plague, says: "Deinde, quia licet omnium sæculorum pestilentias diligenter percurras, tam mutabilis semper fuerit, ut nullam omnino invenias, quæ adamussim cum alia conveniet. Et hæc causa est, quare in curanda Peste præstiterit judicium tuum bene exercitatum sequi quam aliorum medicorum vestigiis insistere," &c.; and this true saying is no truer of a plague than of a pleurisy, or a fever *Manget.* Pestis. It is true that the patient who is under care to-day may be *like* "him who died o' Wednesday," but is not *him:* hence, you perceive that I am no admirer of statistics, except for the Government, where statistical returns of Agriculture, Commerce, Manufactures, Crime, Population, &c., are useful to the statesman for making his assessments, his calculations, and his levies. When I treat a case of pleurisy, I do not care how you treated your case of pleurisy; I shall bleed my patient on account of his fever, pain, cough, dyspnœa, &c., and not because you bled your patient, who had similar symptoms, of the gravity of which I am no judge, not having been present to judge. So, if I treat a female with certain pain about the middle of the sacral bone, with dysuria, or retention of urine, &c., by methods calculated to take the strain off from her ligamenta rotunda, and thus cure her of retroversio uteri, what is it to me that you adopted some other mode? That which interests me is, to be sure that a woman who has ligamenta rotunda not more than two inches and a half long, cannot have her womb turned topsy-turvy. That is the principle which I ought to apprehend, and I shall carry it out in my practice. Do you get some other principle, if you can, and come to prove my error by your statistics; I should be strongly inclined to take after Mr. Dennis Bulgruddery, in the play, who, if bothered with statistics, by his friend Bull, would have been apt to say, "To the divil I pitch you and your statistics, Mr. Bull!" If you had the statistical report of the weather at sunrise, for the last six thousand years, it could not tell you whether to-morrow morning will be clear or cloudy.

Let a man, therefore, make himself so thoroughly learned in Medicine that he can detect the lesion of structure or function wherever it may hide, and then he is the sole judge of the action required in the case: not because twenty other cases were, but because this case is.

But I stated that one great cause of unsuccess lies in the absence of information among the population generally. This absence of information is the fruitful source of Homœopathy, Hydropathy, Thompsonianism, Panaceaism, and all the Catholicons, Infallible worm-destroying

lozenges, Balms of Gilead, and that shocking absurdity—the Vegetable pill, which, like a sort of epidemic diarrhœa, has tormented the intestinal canal of thousands and tens of thousands of our far-seeing compatriots, until the American population have become hardened in purgations, so that if Horace were here, he would not think the *dura messorum ilia* the toughest things in creation. It seems to me there must ever be found in human societies, a certain percentage of foolish people, who are born to be under the influence of quackery, or charlatanism of some sort. You must then expect, as long as you live, to suffer from the annoyance arising out of that class; and you need not expect to subvert or eradicate it when a new quackery breaks forth like Homœopathy or Anæsthesia. You ought not to be alarmed about it, nor suppose that Physic is going to the dogs because of the hosts of the Quackdom. Horace Walpole, in his letter to the Countess of Ossory, July 1, 1789, says of the madness of the French Revolution: "We have horse room and cart room for being as mad as we please. Loutherbourg, the painter, is turned an inspired physician, and has three thousand patients; his sovereign panacea is barley-water. I believe it as efficacious as mesmerism. Baron Swedenborg's disciples multiply also; I am glad of it. The more religion and the more follies, the better; they inveigle proselytes from one another."

Do you suppose, my dear young gentlemen, that if the community at large should be as well acquainted with physiology and therapeutics as you and I, the *Ledger* and the *Gazette* would occupy nearly one-half of their columns with those horrid descriptions and unblushing confessions of piles and itch, and other dreadful disorders, which the sufferers from them love to parade for the public gratification and edification, under their own signs manual in the newspapers!

You, who know the sceleton humanum, and the attitude of the uterus within the pelvis, do you think that Mrs. *a.* to *x.* should, out of a missionary zeal, suffer her name to appear as one of the wonder-worked cures of a shameless procidentia, by what is, at our daily breakfast-table, brought up in the morning paper, to stare the ladies out of countenance, under the modest title of a utero-abdominal supporter. Who wants to know, or who ought to know that the ladies have abdomens and wombs but us doctors? When I was young, a woman had no legs even, but only feet, and possibly *ankles;* now, forsooth, they have *utero*-abdominal supporters, not in fact only, but in the very newspapers. They are, surely, not fit subjects for newspaper advertisements, nor would they be advertised but out of our own stupidity or remissness.

I say, confidently, out of our remissness, and here are my reasons for saying so.

We live in a land and an age of common schools and common sense. This is a country of general knowledge among the population. It is impossible that any system of science or art can stand in this country, flooded as it is with intellectual light, if sustained by any but real claims to the respect and confidence of the public. We doctors claim this confidence and respect; and we deserve it, doubtless; but we claim it imperiously and as a vested right, a right descended to us by inheritance, from our *avos et proavos*, the founders of our order. But we ought to remember that our privileges, those we received in a commission proceeding from the Legislature, under the Great Seal of the Commonwealth, are not of the nature of the *privilegium clericale*, as the lawyers term it. There are too many persons in this country that can read and write, to allow us to claim a clergyable exemption from the general practice here of explaining one's self. What is the right, therefore, by which we assume, in the present day, to clothe all our proceedings in mystery, and to expect our patients to kneel down while we (not confess, but) cut them with bistouries and knives, or put arsenic and prussic acid down their gullets? They will not submit to our clerical manners; and they say, that if we will persist to hide our art under an impenetrable veil of mystery and jargon, they must remain incapable of discriminating betwixt the true physician and the quacksalver, since both agree upon one course, that of demanding an implicit faith and obedience without recourse to reasoning. When Meg Merrilies offered her Devil's broth to honest Dominie Sampson, and he feared to take the dose, what said the witch to him? She said what we doctors say to the sick lady or gentleman, "Gape, sinner, and swallow!" Is not this representation a fair one? Even your early and noviciate experience must, we think, have furnished you the materials for judging whether I speak fairly or not.

I say, then, it is our stupidity and our remissness that work evil to the people, redounding to our own hurt also; for there is no person, endowed with a good share of common sense, to whom we could not address, through that common sense, a reasonable and plain statement of the facts of his case, the probabilities as to its course, duration, and end; with an enumeration of the safest, most convenient, and certain processes for its cure. Imagine such a person, well-informed, and you have the idea of a patient the most docile, the most exact in therapeutic and hygienic obedience; the most confiding in your skill, and the most grateful for your intervention in his behalf. Would that all our brethren in this land might adopt views like these. With their

united force of intellect, character, beneficence, and social station, it would be but a short time ere the diminished head of charlatanism, under whatever disguise, would be found only to lift itself up among the most ignorant and abject portions of the population, instead of riding, as it does to-day, with chariots and with horsemen, a shame to the intelligence of the age, and a perpetual eye-sore to the lover of truth and contemner of every species of imposture. Let us explain ourselves then to the people.

I hope it will not be impertinent in me to say that I have enjoyed a large share of professional business for some years past, and that, in the main, I have had reason to suppose I received very unbounded confidence, and a general obedience to my medical directions, from those persons and families who called me. This good fortune I have long attributed, in a considerable measure, to the entire frankness of my explanations as to any diagnostic, prognostic, therapeutic, and hygienic views in my cases; as well as the pathology of them. I should have been a less fortunate physician if I had made more of a mystery of my rhubarb and magnesia; my senna and my salts; my antimonial wine, and my lancet.

Some of the brethren, chiefly I presume those who have not very clear and concise views of their own on medical topics, are bitterly opposed to all such explanation, on the ground that the principles of our science are far too recondite for the vulgar, who are not able to appreciate either them or the facts on which they rest. What a set of snobs! I have occasionally met with difficulties in consultations from the opposition of brethren to my desire to let the patient fully into my opinions. If a man really have any opinions, that are honest and clear, and well founded, do you know why he should conceal them? I profess to believe that where a physician forms perfectly transparent views of his cases, there is no need for the powdered wig and the gold-headed cane, the mysterious nod, and all the apparatus of deception that we might look for rather in old Felix Plater, or Horace Augenius, than in a modern physician, who is or rather who ought to be a modern gentleman and man of honor; and as such, above all false pretences—open, candid, and manly.

Now I sincerely think that where you may hereafter desire to effect a cure, yet meet with obstruction through the timidity, the doubts, or apprehensions of the patient, you will only have to speak common sense, and to take out your pencil, and on a sheet of paper make a few well-sketched diagrams of parts, organs, and relations of parts and organs, in order to bring the recusant back to a truer and firmer faith than before, by convincing his judgment and winning his inclination. Yea,

verily, you shall sustain the fainting hope and the dying faith of the sick girl, for days and for weeks, and through months of pain, if you speak the truth, and explain the truth; if you show the hope and have the hope; if you claim the power, and really possess it.

But if you have not the confidence of your patients, it is because you either do not merit it by your science, your skill, and your temper; or because, possessing all these, you are destitute of, what I beg you to excuse me for calling in a grave book by a slight term, *gumption*. Depend upon it, my dear young gentlemen, there are plenty of people, "plenty as blackberries," who seem very learned and very shining except when you come to a rub with them, but who lose all their shining qualities because they have not and cannot take a real polish. They are covered only by a varnish.

The celebrated Dr. Clarke, of London, from whose lectures that capital little midwifery book, called the *London Practice of Midwifery*, was pirated, says, somewhere in its pages, that one Doctor, by his good sense, shall retain the entire confidence of the woman in labor through the most painful protractedness of labor, while another would lose her confidence, in a very short time of hope deferred; and that, not because he hath not ability as a prescriber equal to the other, but from some fault of manner, expression, or conversation.

If you would be learned men, it is well; but it is better to be wise men. A man may be wise without being learned; but it is not uncommon to be learned and yet to be a perfect ass in all that relates to what I might term administration, or action. Let your light, therefore, shine among men: set it on a hill, and do not conceal it under a bushel of gawkeyness, or some stupid conceit of your personal dignity; or, what is still more asinine, the dignity of your calling. Dignity is you, not physic, nor the practice thereof. Did you never hear that

> "Worth makes the man, the want of it the fellow,
> And all the rest is leather and prunella?"

I have seen dignified shoemakers, carters, butchers, and even a very dignified tailor, and I have known philosophers and very learned men without the least dignity. Believe me, there is true dignity in great virtue, great information, and great power to diffuse, apply, and make that information useful to our fellow-men. Such is the dignity you should strive to attain. Such is the dignity of the scholar. He is not the scholar who knows most, but rather he in whom scholarship begets the fruits of wisdom both as to conversation and conduct.

That wonderful old man, Virey, says: "La présence, l'attouchement ou les parolles d'un homme très-eminent par son caractère moral, ou par

la sublimité de son esprit ou par l'opinion de sa dignité, influent singulièrement sur les ames inferieures et sont capables de guerir les corps." (*L'art de Perfect. l'Homme*, ii. 22.)

If I could give you the best piece of advice in my power, I think I should give you this advice; namely, in all your dealings hereafter as physicians, and in all your life-doings, strive, first, to increase the boundaries of your knowledge; and, second, to make that knowledge as vulgar, as popular as possible. Be a reformer in this particular, and you will, should you succeed, become the real founder of a Sect in Medicine, and that sect you may baptize as the Young Physic that Dr. Forbes advocates. That will be the true young physic, which succeeds in bringing down Old Physic to the level of this common sense age.

I say again, therefore, wherever you place yourself, be sure to have no concealment, no mystery, no pretence; but endeavor, in the clearest manner, not pragmatically to assert, but clearly to show your claims to superior power in that great utilitarian avocation of curing the sick and the wounded; an avocation which is almost, I say it with reverence, next in goodness to the mission of Christ, who went about clothed with power and authority—(εγειρειν τους νεκρους και ζωοποιειν.)

In order fully to discharge the duties of this great mission, is it not indispensable that you should prepare yourselves for its offices by suitable preparation of the mind and person? Of the mind, by arming it with knowledge and wisdom; with prudence and patience; with firmness to encounter all vexation and responsibility; with charity and liberality, and with all that armature of the soul that alone can render men worthy to be called ελευθεροί, or freemen, for none are so but those whose condition has raised them above the grossness and sensuality of the corporeal nature, rendering the body the servant and the minister, not the tyrant of the soul and the heart; not as humbling the intellect, but adorning it with noble sentiments.

It is difficult to say how a man, in forming his manners, should proceed. Indeed, there is, probably, no art so great to form the manners as that which teaches us to keep the temper and the desires of the soul within the just bounds by which they are restrained among all true followers of the Christ. To be a true and accomplished gentleman, one should "do justly, love mercy, and walk humbly before God." Any person, under such guidance, cannot fail to have manners acceptable in all forms and ranks of society, wherever business may lead him. Such a person will have his own manners, and not be a servile imitator of other men's style—and this is far better; for where a man is seen to represent himself, and not some other person, he will surely be trusted

and respected because he preserves his own identity, and so is never to be likened to a two-faced Janus.

A special regard to one's personal appearance is also a very indispensable means of success, not in making money, but in curing the sick. The sick are affected by the presence of the physician. A man well dressed, of good manners, of agreeable conversation, neither too grave nor too gay, would, *cæteris paribus*, inspire more confidence, infuse larger courage, longer patience, and greater hope, and therein succeed more surely in curing his patient, than another of equal information on medical science, but careless and negligent of his behavior and appearance, vulgar and rude in his conversation and manners. Sick people think that the physician should be a wise and a learned person, or a scholar. They know that Medicine is Scholarship, and a brute never can be really a scholar, who, as I said already, is a gentleman. Let every scholar, therefore, become really a freeman of the republic of letters, not a servant or slave. Let him be assured that St. Augustin spoke the truth in saying quod scimus debemus rationi, quod credimus auctoritati. Be ye therefore men that know, and not merely people that believe of a doctrine whether it be good or bad, true or false.

I cannot advise that you always should carry about with you an air, and, indeed, a habit of boasting, and an appearance of self-sufficiency, which, wherever they are observed, generally are taken to be signs of weakness. But that which you do know, I would have you conscious of knowing, so that you may be enabled to speak with due boldness and decision on all proper occasions. What you do know you ought to know well; but you should not forget that your training and education, that have made you familiar with many deep things in science, can not prevent you from being troubled with professional opinions by non-professional people. Despise them not; remembering that one man can not know all things even in his own art—and that even if he could, the remark of Mirabeau is a good one, that "To succeed in the world it is necessary to submit to be taught many things which you understand, by persons who know nothing about them."

But, I fear I am uselessly consuming your time and exhausting your patience. I shall close this letter, therefore, by recommending you to observe the rules of conduct laid down by your professor of the Institutes on Commencement-day. Should you remember and follow out the plan he then pointed out, you will become what I desire ardently that you should become, useful and successful in your calling, which will redound not only to your own honor and profit, but to the credit of your Alma Mater.

Before I close this letter, pray allow me to cite for your perusal a

passage from Sir Thomas Browne's *Religio Medici*, p. 139, who, if you imitate him in the sentiments and conduct here pointed out, will be your sufficient model.

"I feel not in me," says Sir Thomas Browne, "those sordid and unchristian desires of my profession; I do not secretly implore and wish for plagues, rejoice at famines, revolve ephemerides and almanacks, in expectation of malignant aspects, fatal conjunctions and eclipses: I rejoice not at unwholesome springs, or unseasonable winters; my prayer goes with the husbandman's; I desire everything in its proper season, that neither men nor the times be put out of temper. Let me be sick myself, if sometimes the malady of my patient be not a disease unto me. I desire rather to cure his infirmities than my own necessities: where I do him no good, methinks it is scarce honest gain; though I confess it is but the worthy salary of our well-intended endeavors. I am not only ashamed, but heartily sorry, that besides death there are diseases incurable; yet not for my own sake, or that they be beyond my art, but for the general cause and sake of humanity, whose common cause I apprehend as mine own."

Farewell. C. D. M.

LETTER III.

SEX.

Gentlemen: You may remember that in lectures at the college, I frequently repeated that the ovary of the female gives to her the sexual character, and that as the interior and active tissue of the ovary, is the part which Ch. Ernest von Baer calls the lager or stroma, so that very stroma itself is SEX.

You might, perhaps, at first hearing this dogma, feel disposed to reject it as too concise an expression of the multitudinous and diversified characteristics of the sexual nature—but I hope a careful examination of the matter may induce you to coincide with me in opinion.

The sexual office is designed to reproduce the material forms and faculties of a genus or species; and this is not done save by the production of a germ, which at least in all the Zoological series, is found within an ovum, which, in plain English, is an egg. *Omne vivum ex ovo* is a true saying.

An ovum then is an egg—which is not to be considered as a germ, but

as a thing containing a germ, and also the material or pabulum for the early stages of the development of that germ.

An egg is a yelk-ball—which in some instances is invested with a quantity of albumen or white, and in some cases is not accompanied with any material of that sort.

A yelk-ball is a *vitellus*—and consists of a multitude of corpuscles and granules and punctiform bodies with small globules of oil swimming in a clear colorless fluid, all inclosed by a delicate anhistous membrane, called the vitellary membrane. In most cases, yelk matter is of a yellow hue; in some it is red or greenish, &c.

If you break open a yelk, whether of the humming-bird or the ostrich, of the elephant or the mare, the rabbit or the earthworm, the shad, the minnow, or the whale, you will find it to consist of corpuscles, granules, and puncta, with oil globules and a clear fluid.

If the egg has not been previously subjected to fecundation, as it could not be while remaining in the ovary, there will be found within it at the centre of the ball, or near the inner surface of the vitellary membrane, a smaller spherule of a beautiful transparency, and which is denominated the germinal vesicle—within which, and adhering to the wall of the vesicle, are a number of very minute microscopic granules, which by Rudolph Wagner, of Berlin, by whom they were discovered, are called the macula germinativa or germinal spot—so that an egg is, 1, a vitellus; 2, a germinal vesicle contained within a vitellus; 3, a germinal spot lodged upon the inner wall of the germinal vesicle.

It is to be believed that the germinal spot is the true germ-point, or germ itself, and that all the other constituents of the ovum are placed round about it, in order that by its changing and formative power, its metabolic and plastic force, it may convert their elements into its own corporeal elements, evolving out of them the rudiments of its own organs, as brain, veins, heart, blood, &c. &c. Such an ovum, after having acquired sufficient organic form and force, to make its mesenteric attachment to the living parts of the womb, is ready to be conceived. Conception is the formation of that mesenteric attachment, and nothing more nor nothing less; for conception is the fixation of the fecundated germ.

Nature, all whose operations are preordained, as being guided and limited by the law of God, has provided fully and most liberally for the production of germs, and thereby secured the perpetuity of her kinds. She has, in order for this germ production, adopted various methods of arrangement. In certain animals she has devolved the germ-producing and the fecundating powers upon the same creature—in others, she has

provided two independent forms of being for the carrying on of the office.

In the lower orders of beings, as the earthworm, for example, both the germiferous and the fecundative attributes are comprised within the same individual body. So that the creature can fecundate its own female constitution by the act of its male constitution; and this simple but effectual mode of keeping up the genus or species is admirably adapted to the inactive and aperceptive nature of the being itself.

In higher forms, two separate individuals are provided, one endowed with the male, or fecundating nature, and the other with the female, or germinating nature. "Male and female created he them," unto the end that they might increase and multiply, and fill the earth with sentient beings, wonderfully endowed with life-faculties, and therefore with the means of enjoyment, in other words, of happiness. To procure happiness and establish it, must be regarded as one of the highest attributes of Divine power and beneficence.

The important, the indispensable ovum, could not be left without protection—nor could it be developed without a machinery. The ovum is, therefore, protected within an ovisac, or capsule, which is what is called a Graafian vesicle, or Graafian follicle, or Graafian cell, from Regnier de Graaf, a Dutch physician, who, in his *Treatise de Mulierum Organis Generationi Inservientibus*, published in 1672, gave the first clear account of those small pellucid vesicles that you have so often seen in the ovaries I exhibited to you.

A Graafian vesicle consists of a double-coated capsule, of which the outer one lies in contact with the stroma, and contains the inner one within its own sphere; not loose and unattached, but connected to it by means probably of a very delicate laminated cellular tela.

This interposed and connecting cellular tela may become filled with secretions; and as the outer one is, like a mineral in its gangue, pressed against the stroma, it is clear that any interstitial deposit must have two contrary results, one to enlarge the outer concentric and throw it further back against the stroma, displacing and distending it; the other to press the ovisac inwards towards its contents to compress them, and so render the inner aspect of the ovisac uneven, wrinkled, or convoluted; and, in fact, I have shown you on several occasions both these different results.

I pray you call to mind, not only the human ovaries in which I showed you the convoluted or wrinkled appearance of the inner aspect of the ovisac, but the more striking samples of the same effect in the ovary of the sheep and the cow. In this latter case, the interstitial deposit was so enormous that the outer coat of the ovisac had grown to

a size nearly equal to half the mass of the whole ovary, and was of an orange hue, derived from the deposit of a great quantity of vitellary matter betwixt the two laminæ; the outer one being greatly expanded or extended, and the inner one being crimped, convoluted, or wrinkled. This great orange-colored mass was the corpus luteum.

Before the corpus luteum had begun to be formed, the ovary had been occupied in furnishing vitellary matter for the construction of the yelk-ball; but that ball, having become complete in all its parts, and incapable of any further accretion, as contrary to its generic law, the ovarian stroma, whose office it is to produce germs and vitellus, could not at once withhold its vitelliferous power, and the deposit went on upon the outside of the true ovisac after the completion of the vitellary ball.

Hence, you perceive that within a perfectly mature Graafian follicle there is a yelk-ball, with its germinal vesicle and its germinal spot inside of it; some fluid of the ovisac filled with granules; and on the outer surface of the ovisac, between it and the external capsule or coat, a yellow deposit, which begins to appear there about the time when the yelk is quite ripe, and continues to augment in quantity for some time after the yelk has been discharged. Let me repeat, that this yellow body is the famous corpus luteum, and that such a yellow mass is deposited with the maturation and discharge of every yelk. Sometimes, perhaps in pregnancy, the corpus luteum is larger than at other times, but whether large or small, it is a real corpus luteum; for there are not, as some writers pretend, true and false, but only true corpora lutea.

But this gradual evolution of the luteal deposit has the effect of lifting the germ, with its vesicle and its yelk-ball, nearer and nearer to the superficies of the stroma: to press outwards the tunica albuginea; and, finally, to press it so forcibly that absorption commences at the weakest and most distended point of its surface, until, a pore being formed, the yelk and the fluid about it escape from their imprisonment in the ovisac, and either fall into the belly, or are received within the infundibular orifice of the oviduct, which you call Fallopian tube, which conveys the egg to the womb. Its mesenteric attachment to the womb, as I before said, constitutes a conception, which pregnancy follows.

I have made the foregoing observations in order to fortify my assertion, that for the female stroma is sex. But you will find, if you will read the good authors, that this is not my doctrine. It is the doctrine of the highest authorities.

The *British and Foreign Medico-Chirurgical Review* for Jan. 1849, ridicules me for saying that stroma is sex. I have not that vainglorious

pride that can lead me to suppose that truth is mine. Truth is God's, and his alone. Truth belongs to no mortal: he may only see it and feel conscious of it. I am conscious that I speak the truth when I say that stroma is the sexual concrete, and that it alone is so, as alone being a vitelliferous organ. "La différence sexuelle ne repose donc pas sur une polarisation complète, sur une scission en deux facteurs qui s'excluent l'un et l'autre; l'ovaire reste, jusqu'à un certain point, la chose primordiale, indifferente, procreatrice de son propre fonds, et il n'y a antagonisme de polarité entre lui et le testicale qu'en égard à l'achèvement de ses produits, par conséquence de l'intensité de ses forces." (*Burdach*, i. 360.)

Do you think that if a creature should be born with the external genitalia perfectly well formed, with a perfect uterus, and vagina, and tubes, but without any trace of ovarium, such a creature could be a female? Or, if she should have two perfect ovaria, and be born without womb, or vagina, or external organs, would she be anything else than female? I am sure you will agree with me that she would not, in the former case, be female, and that, in the latter, she would be truly female—because, though unhappily deprived of any gestative organ, or organ of copulation, she is endowed with the germiferous through her vitelliferous faculty, which resides essentially and exclusively in the substance called *stroma*. No germ could she evolve in the spleen or liver, in the kidney or brain, in the heart or lungs, nor, indeed, anywhere save in the stroma, which is the true sexual concrete, and is, therefore, itself sex. Liver, heart, brain, lung, nor digestive canal, is not sex, but stroma is sex for the female—nothing else is sex.

Oken says: "Already in the course of the heavenly bodies has the highest act of the animal, that of copulation, been preindicated or portrayed. The creation of the universe or world is itself nothing but an act of impregnation. The sex is prognosticated from the beginning, and pursues its course like a holy and conservative bond throughout the whole of nature," &c. (Oken, *Physio.-Philosophy*, 398.)

But, after all, what is sex? Methinks you ask the question, which is a very difficult one. Perhaps I should best answer it in a few words, by saying it is reproductive power, whether male power or female power. It is a matter of indifference whether the philologists derive the word from *secus*, *aliter*, otherwise, after another manner; or from *secare*, to cut, to divide one from another. We have, in physic, less to do with philology than with facts.

I think that we are hitherto unacquainted with any facts that give convincing proof of a sexual nature in the germ. There is an embryonal stage of life in which it is utterly impossible to determine the sex

of the embryo; and it is not known whether the female embryo proceeds from a germ originally female, or whether the germ, being in its inchoate state, neither male nor female, assumes the female nature in the progress of its evolution, or takes on the nature of the male at some certain stage and under some law as yet unknown to us.

It is very certain, however, that for the human race, the proportion of the sexes, as to their number on the globe, is maintained from age to age. The law that ordains this equable rate of production, operates so as to bring into the world about 104 males to 100 females; a proportion which keeps the sexes nearly equal in number; it being probable that the temperament and exposure of the male render him more liable to premature death than the female, on which account the excess of male production is ordained.

If we refer to what is known to be true as to the non-sexual nature of the larva of the bee, hereafter to be mentioned, we may find arguments for the opinion that the germ, originally, is non-sexual, but becomes male or female under some unknown law of development, in its earliest embryonal life.

If such a sentiment may be rightfully entertained, you will, perhaps, agree with me that sex is something superimposed upon the mere living nature of a creature; and you will more readily admit of it if you contemplate two children, one male and the other female, of the same stature, weight, and temperament, born at the same hour, and brought up at the same breast. You cannot report to the mother of what sex they be, without referring to the pelvic extremity of the trunk. They are pleased with the same rattle, tickled with the same straw. They play at the same toys, and are alike in moral and physical attributes, until the sexual endowment comes to be granted to them. Upon that instant they divaricate; their whole physical and intellectual, and moral forces become different, and they pursue, so to speak, a separate walk of life, until the exhaustion of the sexual attribute, in the one and in the other, causes their paths to converge again, until they are seen sleeping "*thegither at the fit*" of the hill of life, over which they had toiled in distinct tracks from the puberic until the critical age. What can be more like an old woman than an old man? or what can be more like a girl than a perfectly ingenuous boy? Where is the likeness between men and women?

Is it not true, then, that the sexual nature is something superadded to the mere living or corporeal nature, which, on being taken away, reduces the sexual individuals back again to their original sameness of life-nature? Is not sexuality a complement?

You have heard, I presume, of a circumstance that may tend to

illustrate this idea, in the history of the honey-bee. The community requires a queen—which means a vitelliferous, and so a germiferous creature—and it also requires a considerable number of drones—males, or fecundating members of the society, which being provided for the hive, nothing more is wanting but a sufficient number of mules, working bees, or creatures capable, first of enjoyment, and second, of providing for the conservation of the species by collecting food—1, for the germiferous; 2, for the fecundating; and 3, for the laboring part of the species. Now all these males and workers are alike while in the ovular state; but if the males die, by some epidemic, a battle or accident, the community know how to convert the larvæ into males by administering to them certain sorts of food, or else leave them mere worker-mules, by withholding that kind of aliment. So that, in fact, you discover here that the mere corporeal life of the larva possesses no sexual nature, and that a sexual nature may be superadded by a certain economy of the hive, an economy that can cause the ovum so to develop itself as to become fitly provided with the fecundating apparatus and material, or to become drone bee or germiferous bee. When a queen dies, after having deposited many thousand eggs in the mule-bee cells, the alarm and confusion in the hive are very extraordinary; but it subsides after the tumult of the first excitement, and the mules or workers select some one egg, for which they enlarge the cell by converting three common ones into a single royal cell. By feeding the grub with an aliment called royal jelly, they cause it to pass into the female state, and thus the lost queen is succeeded by a queen produced from the egg of a mule or worker-bee; an egg that could only have developed a non-sexual creature but for the special influences brought to bear upon it from a state necessity. I ask you again, if this be true, whether it does not show that the sexual nature is, not an original nature, but a nature superimposed upon a mere animal or living nature. And, if true of the bee, does not that truth, established, likewise establish the law for all possible animal and even vegetable existences? M. G. Cuvier, in the *Règne Animal*, vol. vi. 314, is of opinion that the mule bee is but an undeveloped female; but even this view confirms the one I have taken above, for what is an undeveloped female?

I see not how a better proof, or at least illustration, could be given of my idea that the sexual nature is a climax. A culminating life-force evolves it.

It ought not to excite our astonishment that the female sexual nature gives to the physical intellectual and moral attributes a bias different from that of the male. The sexual organs in woman are different—they are subject to fluctuations as to the tide of life within them that those of the

male are by no means exposed to. Women are always about to menstruate or menstruating, or ceasing to menstruate: the womb is gravid or going to become so, or it is recovering from the parturient state: these organs have never an even steady tenor of life. These organs require a different and more complex system of innervations, more expensive to the nerve-centres than those of the male; more delicate, sensitive, impressible than his. Here are circumstances, then, implying a dependency and physical debility as compared with him; a reliance upon and a trusting to his power: and, in fact, all the peculiarities that mark her as a creature of the feminine and gentle sex.

I shall in my next letter occupy your atttention with some remarks on the distinctive characteristics of woman, to which I shall beg to invite your attention, not with a view that you may learn of me what those distinctive characteristics are—for a volume would not suffice fully to relate them—but that I may, perhaps, be able to turn your attention in that direction, in the hope that your young and vigorous strength may be incited to a more consistent and energetic pursuit of whatever literature and science ought to be garnered up by a physician, as the ornaments and aids of his career of usefulness and dignity. Farewell.

C. D. M.

LETTER IV.

SEXUAL PECULIARITIES.

Gentlemen: Before I proceed to the consideration of the topics that are to engage our attention in the main, I wish in this letter to say some words to you on the Distinctive Characteristics of the Woman—or rather, I should say, on some few of those characteristics—for to describe them all would require rather a series of letters than a single discourse. I shall, therefore, in the present letter, only attempt to indicate a few points of contrast betwixt the male and female, with a view to turn your attention that way. I could readily fill a volume upon the different texts that I am about to present to your consideration.

It is proper that I should fulfil this design, because I have long thought, as I now do, that without some preliminary thoughts and reflections in this direction, you might be less fully prepared to receive proper views of the disorders to which the woman is subject, and which it behooves

you as medical men to acquire; and less capable than you should be to appreciate those modifications of therapeutical indication and process that are demanded by the moral, intellectual, and physical qualities of the female; for her mere human or generic nature is modified by her sexual or female nature to such a degree, that as to certain of the great crises of her life she demands a treatment adapted to the very specialties of her own constitution, as a moral, a sexual, germiferous, gestative, or parturient creature.

I do not suppose you could acquire just views on these points in the dissecting-room, or the theatre of anatomy alone. Nor can I give them to you here in one letter, for the time is too short. There, it is true, you might explore the items of her physical structure, in order to compare them with those of the hardier sex. You might there learn that though she be a part of mankind, more truly a Zygozoaire than those of M. de Blainville's classification, she yet differs from men in her stature, which is lower; in her weight, which is less; in her form, which is more gracile and beautiful; in her reproductive organs, that are peculiar to her; and in her intellectual and moral perceptivity and forces, which are feminine as her organs are.

Beyond all these, you shall have to explore the history of those wonderful functions and destinies which her sexual nature enables her to fulfil, and the strange and secret influences which her organs, by their nervous constitution, and their functions, by their relation to her whole life-force, whether in sickness or health, are capable of exerting, not on the body alone, but on the heart, the mind, and the very soul of woman.

The medical practitioner has, then, much to study, as to the female, that is not purely medical—but psychological and moral rather: such researches will be a future obligation lying heavily upon you, upon all of you.

Every well-educated medical man ought to know something more of woman than is contained in the volumes of a medical library. Her history and literature, in all ages and countries, ought to be gathered as the garlands with which to adorn his scholarly career as a physician; but these insignia of his power he can only gather by the careful and tasteful study of his subject among the rich stores of learning that are garnered in the belles-lettres collections, whether archaiological, mediæval, or modern.

The medical man, surely, of all men, ought to be best able to appreciate the influence of the sex in the social state; because, more than other men, he is by his vocation in habits of closer observation of those influences that bind together the members of families that compose the

social compact. He more clearly than others can recognize the power of woman in the family—and thus in all society, which he sees to be moulded and controlled by the gentler sex. But for the power of that female influence, which one of you would doubt the rapid relapse of society into the violence and chaos of the earliest barbarism?

Are you not aware that the elegance and the polish of the Christian nations are due to the presence of the Sex in society—not in the Zenana! Do you not perceive that Music, Poetry, Painting, all the arts of elegance: Luxury, Fashion, (that potent spell!) are of *her*, and through *her*, and to *her?* Versailles and Marli, and the Trianons, had never been built for *men*. The loom blends and sets forth the dyes that add richer reflections to *her* bloom; the wheel flies for polishing the diamond that is to flash in impotent rivalry above woman's eyes; sea and land are ransacked of their treasures for her; and the very air yields its egrets, and marabouts, and paradise-birds, that their plumes may add piquancy to her style, and grace to her gesture. Even literature and the sciences are in a good measure due to her patronage and approbation, which is the motive power to all manly endeavor. This is true, since, but for her approving smile, and her rewarding caress, what is there should stir man from the sole, the dire, the unremitted compulsion to act that he may live? With woman for his companion, man acts not only that he may live, but that he may live like a Christian, and like a Gentleman. Dr. Johnson says, that "to be happy at home is the ultimate result of all ambition, the end to which every enterprise and labor tends, and of which every desire prompts the prosecution."

> "Blest as the immortal Gods is he,
> The youth who fondly sits by thee,
> And hears and sees thee all the while,
> Softly speak, and sweetly smile!"

The great stage of the world, we are informed by the inspired writers, was prepared as the scene of a grand moral drama. The earth and all that it inherit is for *man*, his use, his delight, his *trial!* But, this *mankind*—this genus man—is an imperishable unit that commenced at the beginning, and touches the middle and the end of time. It is a vast wave rolling down the tide of time, ever rolling, ever descending. Its spray and its foam are lost in the sands, or melted in the air, as the fragments of mortality are broken off and swallowed up in the grave; but the wave is unbroken; it grows as it goes; the great majestic wave rolls onward, onward forever—perdurable; and shall not be swallowed up till the last trump shall sound, and the last end be come. The sun himself, they say, "grows dim with years," but the unit, the Genus man springs ever fresh in immortal youth and vigor, like Antæus of

old, foreshowing the immortality of that spiritual part to which Adrian the pagan addressed his speech, as it was leaving the imperial possessor a mere dust-fragment of the vast, ever living unit man.

> Animula vagula blandula
> Hospes comesque corporis
> Quæ nunc, abibis, in loca!
> Pallidula, rigida nudula,
> Nec ut soles, dabis jocos.
>
> AEL. SPARTIANUS.—*Adrian. Cæsar.*

It is strange to think on the power of the race; and yet from what low beginnings! even from the germiferous tissue of the female! It is from her stroma that issues the generic as well as the genetic force! What a wondrous law is that of species! what a constant power is that which maintains each genus and species pure and unalloyed as when it issued from the Creator's hand! So strange, so powerful is it, that each of them is set, as it were, within a magic circle, out of whose charmed round it can never stray; so that no wild and horrid passion, no brutal lust, no insane desire can break, much less change or abrogate the law that set forth the primordial models, "each after his kind," of the species of the globe. For, notwithstanding the countless myriads of generations that from the remotest ages have reproduced individuals more numerous than the sands of the shore, or the stars in the firmament, each blade of grass, still obedient to its generic law, imitates exactly its primitive pattern; and every elephant or worm; every eagle that soars to the sun, or sparrow that chirps in the hedge; every man, and every woman go steadily, like the current of a river, down Time's flowing stream, ever ending, ever beginning, always changing, yet immutably the same!

I repeat it, the generic power is launched from the ovarian stroma, which is the *sole animal concrete* that is capable of producing reproductive matter. Yelk matter is germinal or generic matter; I should rather say reproductive matter. The male tissues are nowhere endowed with the power of this yelk production, and the sole elaboration of the stroma of ovaries is germ-elaboration. See, then, in this unobvious, apparently vile lump of animal texture within the inner court of the temple of the body, the very ark that contains the law which keeps the genera and species unmixed from age to age. How *can* you study this subject sufficiently?

But let us pass to other views. Let us go to look upon woman in the phases of her intellectual nature. If we scan her position amidst the ornate sites of a Christian civilization, it is easy to perceive that her intellectual force is different from that of her master and lord. I say her master and lord; and it is true to say so, since even in that

society she is still in a manner in bonds, and the manacles of custom, of politics, or of *bienséance*, not yet struck from her hands. She has nowhere been admitted to the political rights, franchises, and powers that man arrogates to men alone. The Crown, when it rests on the brow of a woman, is always a political accident, grievous and deprecated; and even then, where woman reigns, man governs.

The great administrative faculties are not hers. She plans no sublime campaigns, nor leads armies to battle, or fleets to victory. The Forum is no theatre for her silver voice, full of tenderness and sensibility. She discerns not the courses of the planets. Orion with his belt, and Arcturus with his suns are naught to her but pretty baubles set up in the sky. She guides no ship through night and tempest across the trackless sea to some far off haven half round the world. She composes no Iliad, no Æneid. The strength of Milton's poetic vision was far beyond her fine and delicate perceptions: she would have been affrighted at the idea of that fiery sea on whose flaming billows Satan,

> "With head uplift above the waves, and eyes
> That sparkling blazed——————
> extended long and large,
> Lay floating many a rood: in bulk as huge
> As whom the fables name of monstrous size;
> ——————or that sea-beast
> Leviathan, which God of all his works
> Created hugest that swim the ocean stream."

Do you think that a woman, who can produce a race and modify the whole fabric of society, could have developed, in the tender soil of her intellect, the strong idea of a Hamlet, or a Macbeth? Could her voice, like the accents of Hortensius, or Tully, or Chatham's, or Burke's, command the bent ear of a listening senate, or move like leaves whirled in a tornado, the agitated masses of a people tossed in the tempest of its vehemence: or like a gentle west wind, soothe and calm them down again by the influences of its reasoning and prayerful suasion?

> "Ille regit dictis animos, et pectora mulcet."
> ÆNEID, I.

Such is not woman's province, nature, power, nor mission. She reigns in the heart; her seat and throne are by the hearth-stone. The household altar is her place of worship and service. The Forum is too angry for her. The Curia is too grave and high, and the Commitia too boisterous and rude. Home is her place, except when, like the star of day, she deigns to issue forth to the world, to exhibit her beauty and her grace, and scatter her smiles upon all that are worthy to receive so rich a boon—and then she goes back to her home, like as the sun sinks in

the west, and the memory of her presence is like the soft twilight that lingers long behind a bright departed day.

Her voice is not for brawling. Its tender tones are for soothings and caressings. The sweetest lute is in her vocal organs; and with its music she stifles the passion, assuages the rage of her master, and reduces back to the gentlest flowing, the furious tide that boils in his veins. It is by the mere contrast of her gentleness, her docility, her submissiveness and patience, that she makes herself the queen and the arbitress of the fate of whom she loves, and whose best rewards for the pains, hazards, and toils of existence, are ever to be found within the narrow circle of her domestic reign.

It is true that we meet in the pages of History and Biography the relations of strange phenomena in the lives and actions of certain women. There are Julias and Messalinas, that are monsters. Fredegonde and Brunehaut terrify us by their atrocities. There is even somewhat questionable in the nature of such ladies as Elizabeth, or Mary of Medici. We have male powers in a Dacier and a Staël. We find the gentle and feminine Hemans sometimes bursting forth with a wild, impetuous, and martial enthusiasm. Yet these are exceptions, and not rules; exceptions that fill us with surprise, as of things out of or beyond the common course of nature.

Among the wonderful exceptions of power in women, there is perhaps none on record so extraordinary as that of the actress Rachel. The power of that woman's eloquence seems superhuman, and I much doubt whether the most splendid orators of antiquity, or the most powerful senators of modern times, could vie with the potent and spell-weaving accents and gestures of that extraordinary creature. A word, a look, a sign, a *pleno rotundoque ore* effusion of thoughts that breathed and words that burned, overbore me that I could no longer look at her face and figure, but compelled me to avert my eyes from the intolerable blaze of genius that flashed like a glory all about the pretended daughter of Virginius.

Although I believe that Rachel is the most eloquent human being that has lived, she is mainly so in the use of others' thoughts and others' words. As to her own power of imagination, reasoning or judgment, I presume they are those of a play actress.

The bibliographical lists are full of the prettinesses of the ladies.—No *Mécanique Celeste*—no *Principia*—no *Treatise de Senectute*—no *Annals of Tacitus* belong to them; but Canzonetti, Fairy tales, Stories of the heart, *Mysteries of Udolpho*, and *Cœlebs in Search of a Wife*. Such are their works. So that it is easy, by a slight glance at history, and by the facts that surround us, to conclude that the intellectual and

moral force of the female are different from those of the stronger or ruder sex.

Who could imagine such an intellectual fairy as Felicia Hemans joining a charging squadron of crusading chivalry, knee to knee with Godfrey de Bouillon or Cœur de Lion, and glorying in the commingling of the spears! Yet, though timid herself, her very tenderness gives her the keenest perception of the nature of courage, and the deepest sympathy with the feelings of her gallant knight.

See, gentlemen, in the following lines by Mrs. Hemans, her touching sympathy with a captive Crusader in some lofty Pagan tower, perched above a deep craggy waddy in Palestine.

Worn and wearied with a long and lone captivity, his valiant heart, though broken, still pants, in its solitude and hopelessness, for the freedom and action of the field. Suddenly he starts at the wild scream of a bugle, which rises to the topmost height of his lonely tower, penetrates its embattled walls, and thrills in every fibre as he listens.

'Twas a trumpet's pealing sound!
And the Knight look'd down from the Paynim tower
As a Christian host, in its pride and power,
Through the pass beneath him wound.
Cease awhile, Clarion—Clarion loud and shrill—
Cease; let them hear the Captive's voice.—Be still, be still!

I knew 'twas a trumpet's note;
And I see my brethren's lances gleam,
And their pennons wave by the mountain stream,
And their plumes on the glad wind float.
Cease awhile, &c.

I am here in my heavy chain!
And I look on the torrent sweeping by,
And an eagle rushing to the sky,
And a host to its battle plain!
Cease awhile, &c.

Must I pine in my fetters here,
With the wild wave's foam,
And the free bird's flight,
And the tall spears glancing in my sight,
And the trumpet in my ear?
Cease awhile, Clarion, &c. &c.

Now, for my part, I cannot but see in these verses of that most sweet poetess, proofs of her liveliest sensibility to both the nature and the intenseness of those male passions, which, however they may be fitted to enkindle her admiration, and enslave her heart, as forming a perfect antithesis to her own gentle nature, would, as existing in her own breast,

demoralize and deform it. The military pennons and plumes floating on the glad wind, and the tall spears glancing in her mental sight, are not for her to wear or wield. But she may well glory in the hero who is both able to wear and to wield them.

As to the more strictly moral attributes and propensities of the female, what are the facts? Is not her heart, in general the seat of tenderer and gentler emotions than those of her mate? Her susceptible soul is acutely alive to the human charities and trembling sympathies that spring spontaneously in the delicate moral perceptions and physical innervations of her feminine constitution. She cannot unmoved look on scenes of woe.

She melts at the spectacle of human distress—a maiden sheltering a wounded dove in her bosom is an eidolon of the sex.

Mungo Park in the Sahara, and Ledyard among the wildest Samoiedes, always received good, and not evil entreaty at the hands of women, whose husbands had hearts like the nether millstone.

Notwithstanding the poet has characterized her as being,

> "in our hours of ease,
> Uncertain, coy, and hard to please,
> And variable as the shade
> By the light trembling aspen made,"

she is faithful and true. She follows the fortunes of her mate, who has gained her affections. Yea, she adheres to the promise at the altar, which was for better for worse, for richer for poorer, in sickness and health—even unto death; so that the same rhymer apostrophizes her with

> "When pain and anguish wring the brow,
> A ministering angel thou!"

What a beautiful picture is that engraving of the "Intemperate," which you see everywhere in the print-shops! What touching, what immortal fidelity is depicted by the artist in the face of that woman! A face beautiful in its expression of resignation, and of pride in her own faithfulness and truthfulness, as she bears on her bosom the youngest child, while she leads a sick boy by the hand, and is clutched by a timid older girl, all of them barefooted, houseless, hopeless, homeless, for they leave behind in the distance the pretty cottage where they were born, to pursue, along a rugged way, the uncertain, drunken footsteps of the husband and the father, who leads them miserable far away, deserting the homestead she had brought as her dower, in that blessed morn when in the village church she gave herself away *for him*. Now here is her reward! But she will cling to him until the death of the

drunkard shall have broken the bond; and after that, go weep on his discreditable grave, and forgive him too. Such pictures are from life. There are thousands of such.

The female is naturally prone to be religious. Hers is a pious mind. Her confiding nature leads her more readily than men to accept the proffered grace of the Gospel. If an undevout astronomer is mad, what shall we say of an irreligious woman? See how the temples of the Christian worship are filled with women. They flock thither with their young children, and endeavor to implant in their souls the seeds of virtue and piety, to be reared in that pure soil and by their watchful nurture, into plants that shall blossom like the immortal amaranth among the stars. See, then, what and how great is the influence that women exert on the morals of society, of whole nations, of the whole world! Wherever there is a true civilization, woman reigns in society. It is not until she comes to sit beside him, in view of all the people, that man ceases to be barbarous, or semi-barbarous, and cruel, and ignorant.

She spreads abroad the light of civilization and improvement as soon as she issues from the prison of the Harem or Zenana, to live with him in the world. Who made us human? Whose were the hands that led us to kneel down, and whose the lips that taught our infant voices the earliest invocations to Heaven? Is it not so, that after the world and fortune have done their best, or their worst by us, we, in late years, and early, forget not those pious mothers, who so steadfastly strove to bias our young minds in favor of whatsoever is true, whatsoever is pure, whatsoever is of good report!! How can we forget the rewards we received at her hands for all our good, and her gentle, and sometimes tearful reprovings of our evil inclinations and practices? She was not only our teacher and pattern, but our companion and playfellow, for, of a truth, she was of a childlike temper—and that was the secret of the bond that united us to her so long and so closely. Hear what an eloquent Frenchman says of her:—

"Source féconde et sacrée de la vie, la mère est la créature la plus respectable de la nature; c'est d'elle que découlent les générations sur la terre; c'est *Eve* ou l'être vivifiant, qui nous réchauffe dans son sein, qui nous allaite de ses mammelles, nous recueille entre ses bras et protége notre enfance dans le giron de son inépuisable tendresse. Femme! mère! honneur de la creation! quels hommages éternels ne vous sont pas dus dans tout l'univers?"

VIREY.—*La Femme.*

The male is less versatile than the woman. His mission is more adventurous and dangerous. *He* enters on the path of ambition, that dark and dangerous, or broad and shining road.

He pursues the devious track of politics with a resolute will; reach-

ing ever onwards to the possession of fame and patronage, and rank and wealth, and power.

She sits at home to adorn the tent or the cottage with wreaths of flowers, or to guide the tendrils that give shade to his bower. She plies the busy loom—and the sweet sounds of her singing—how often have I listened as they accompany the hum and buzz of her wheel, as she gracefully advances and retires by turns, forming the threads about to be woven into garments for her husband or child! Her nimble fingers, all day long, ply the shining needle, to fashion the robe for her spouse —or to arrange the more elegant embellishments of her person, that may engage his admiration, and augment the flame of his love. For woman, man's love is the moving spring of all her actions. This is at the foundation even of her vanity. Lais herself is said to have sacrificed even her rage for wealth, at times, to the gratification of her vanity; and though the lioness tearing a ram to pieces, which was sculptured upon her tomb, was the emblem of her insatiable avarice, yet Lais lived more for love than for gain.

What say you of the fortitude of woman? She bears the evils of life without repining or complaining against the providence of God. Is she evil entreated, prevented, injured? That which sets a man on fire with an insane rage, kindles in her bosom, perhaps, only a virtuous feeling of indignation. She bears the greatest crosses. How beautifully does Shakspeare say so in the words,

> "She never told her love,
> But let Concealment, like a worm i' the bud,
> Feed on her damask cheek;
> And sate, like Patience on a monument,
> Smiling at grief."

She dies a willing martyr for religion, for country—for her children.

Who can number the Lucretias and Portias? How many are like unto the charming Roland? Think of the calm features of Charlotte Corday! Did you read of the deeds and the death of La Puçelle?

Women possess a peculiar trait—modesty, which is one of the most charming of their attributes; springing probably from their natural timidity and sense of dependence, of which it is the ideal in expression. All rude, boisterous, and immodest speech or action unsexes and disgraces woman. Hence, modesty is one of the strongest of her attractions; and she sometimes, perhaps, affects to possess it for the purpose of riveting her chains on the conqueror man. How sweetly Virgil says so in his

> Malô me Galatea petit, lasciva puella,
> Et fugit ad salices et se cupit ante videri.

The attribute of modesty certainly lends the most powerful aid to the other charms of a woman. It is one of the qualities given to her in order to be a strong fence for her children, for it binds her to the domestic altar—her children could not but endure damage and loss, should she leave them at home to plunge into the torrent of public affairs, or mingle freely with the distracting world! Her modesty, gentleness, and timidity, assimilate her to the characters of children, whose best playfellow, nurse, and instructress she is. Come out from the world, and be separate from it, is peculiarly a command for her.

There is in the Museo Pio-Clementino, at Rome, an antique statue, which the learned Visconti asserts to be a statue of Modesty, and which, as I am informed, is among the most beautiful of the works of ancient art now remaining in the world. It is completely clothed from head to foot, and veiled. It seems to me that such a work is proof enough of the ancient admiration of the quality in question; for the artist who could produce, and the people who could appreciate, such an exquisite specimen of taste and right feeling, must have had a keen perception of the charm.

By her physical form and proportion, she is still more trenchantly divided from the male. Look at two statues, male and female. Take the Venus de Medici as the consummate exposition—the very eidolon of the female form, just as Praxiteles in the greatest verve, fervor, and enthusiasm of his genius, and he alone of all mankind, could conceive the idea of the Queen of the Loves.

Compare her with the Apollo of the Belvidere—she has a head almost too small for intellect, but just big enough for love. His magnificent forehead, calm as heaven, and almost as high as it, rises above those eyes that are following the shaft he has sped with his clanging silver bow.

> "The front of Jove himself,
> An eye like Mars, to threaten and command;
> A station, like a feathered Mercury, new-lighted on
> Some heaven-kissing hill."

Her thorax seems built as the sanctuary of that beautiful bosom, whence is destined to flow the sweet nutriment of the winged boy.

Man's vast chest is for breathing, for eloquence and command. From its capacious stores of oxygen he draws the elements of the most strenuous, the most protracted exertions. He breathes deep, that he may ascend the highest hills and the sharpest crags in pursuit of his game or his prey, and that his loud harmonious voice may command his armies in the midst of the conflict, or sway the forum with its tones.

Like Virgil's wild horse, he is equal to the longest career—nothing can stay him in his race.

> "Non Scopuli, rupesque cavæ, atque objecta retardant
> Flumina, conreptos unda torquentia montes."—Georg. III.

See his loins how they are narrowed down, as they approach the hips, that he may balance himself, as it were, on the point of an inverted cone, ready for the promptest motion. His pelvis contains no variable organs, requiring ample space for extraordinary developments; but its depth and solidity afford origin and insertion to the powerful muscles, by whose immense strength he can act well in the wild, rude, and adventurous life to which he is ordained.

The cone, on the other hand, is reversed in the female. The apex is above, and the base is at the hips. It is within that bony cell that are hidden those miraculous organs that out of nothing can evolve the wondrous work of reproduction. The pelvis is broad and shallow, light in substance, its excavation ample, and its pubic arch round or Roman; while his is Gothic or lanceolate. From under this arch a child could not go; the other gives it easy utterance. His organisms are permanent—hers are mutable. The uterus—no bigger than a thumb—comes in gestation to be twelve inches high and nine in width. Its invisible vessels and nerves come to be great cords and tubes, and its uncognoscible muscles acquire a force to rend itself in pieces in its rage, or, what seems still more miraculous, to expel a full-grown infant from its cavity, against the enormous resistance of flesh and bone. She is a germiparous and vitelliferous creature. She—the female—possesses that strange compound or concrete which you call stroma, ovarian *stroma*, of which I already have spoken, but must again speak. Now, that stroma lives by the blood it receives out of a common endangium, and yet it has a nerve which enables it to convert that blood into vitellus or yelk. The perpetuation of races and germs depends on the elimination of that matter. There is no animal germ without it—so that an organ so small, so unobvious, is endowed with the vast responsibility of keeping up the living scheme of the world—with its moralities—its lives—its actions—its trial—which, were it to cease, there would be left no flowers to bloom, no insects to sport in the evening beam, no choral song of birds, no lowing of cattle, no bleating of flocks, nor voices of men to thank and praise and acknowledge the Author of every good and every perfect gift.

Think, gentlemen, of such great power—and ask your own judgments whether such an organ can be of little influence in the constitution of the woman; whether *she* was not made in order that *it* should

be made, and whether it may not on occasion become a disturbing radiator in her economy, and how much. You will answer yes, if you know that her ovary is her sex—and that she is peculiar because of, and in order that she might have this great, this dominant organ planted within the recesses of her body.

Men cannot suffer the same pains as women. *What* do you call the pain of parturition? There is no name for it but *Agony*.

Why does she love her child more than its father does? Why, he grew to her! He was perhaps an acinus cast out of her stroma, and after drawing his blood from her own blood, he drank life at the living well of her bosom, and character from her monitions and example. What were Cornelia's jewels! Who was Washington's mother!

What do we owe her?—life, peace, liberty, social order. She built up this great frame of society in civilization. It is to her we are indebted for our

"Placidam sub libertate quietem."

Christianity is propagated by her domestic influence. The loom is her work, and the tapestried walls are of her imagining. Were it not for her, we were this day clothed in sheep skins and goat skins, and should lie down in dens and caves. It is for her that the looms of Cashmere, the silks of China, the gauzes of Hindustan, the mousselines of Lyons, the laces of Belgium and England are formed; the carpets of Ispahan and Dresden, Cornelius's blazing chandelier, all the riches displayed by Levy and Bailey are for her. Everything that man is and hath, except his brute force and brutal inclinations, are of her and for her.

See her gliding down the Cydnus in her stately barge, with its silken sails and costly equipage, and the great Triumvir at her feet, who deemed the world well lost for her love, and gave up the world to lie there.

Look at her in the regal halls of Windsor, waving her golden sceptre around the globe, over dominions of hers, on which the sun is never at once set for all. Drive her and all her sex out into the primitive rudeness of her nature, and leave man alone, and what should move him afterwards to do more than is done by the lions and tigers, who follow their instinct, and who are less cruel than he by nature, since he reasons in his evil, while they are only instinctively monstrous!

Study the nature of woman, young gentlemen, follow out all the psychological and physical transformations which her sex produces.

What is her erotic state? what the Protean manifestations of the Life-force developed by a reproductive irritation which you call Hysteria.

Take Martin Barry's microscope, and Bischoff's *History of Development*, and study the myriad germ points that are buried in the depths of her stroma.

I shall soon place in your hands the key that unlocks all the secret details of her mensual phenomena, and not hers only, but the ovulations of all that reproduce, both in the animal and vegetable kingdoms of nature.

It were an endless task to undertake the portraiture of all the characteristics of the sex, as exhibited in their intellectual and moral aspects.

I have made the foregoing slight indications of them, with the purpose of turning your thoughts in that direction; for I believe the contemplation of such subjects is extremely useful to the practitioner of physic, and especially so to those that may design to engage themselves in business connected with the obstetric science and art. I shall not deem it necessary now to do more than merely hint at the potent influence which must be exerted upon the pathological tendencies and states of the female, by the constitution of her organs, and, indeed, by the more delicate, gracile, and impressionable nature of her whole economy. I say I shall merely hint at the subject in this letter; for as much as the whole series is relative to these effects, I shall treat of them herein *in extenso*.

Appreciating as I do, at the highest possible rate, the influence of the gentler sex upon the character and action of the male, I cannot but see in that influence the cause of the major part of the happiness now enjoyed by mankind in civilized, or to speak more exactly, in Christian lands. It is true, that during the great glory of the Roman empire, manners, luxury, pomp, had attained to a high perfection; but it is equally true that the social and domestic position of the woman was even there elevated, although not to a station so coequal as that to which she has attained in our own age. *Petulanter facimus, si matrem-familiâs, secus, quam matronarum sanctitas postulat, nominamus*—is the saying of Cicero.

When, upon the dismemberment of the Roman empire, and the darkness that was consequent to the descent of the barbarians into western and southern Europe, society seemed to have lost all its security; and when brute personal force appeared to be at the foundation of all administration, as well as of all domestic security, the sex came forth again, and by troubadour and knight, whom she created and moved, woman brought her humanizing hand to bear upon and recompose the shattered frame of society. The virelay and the tale of the troubadour, and the scarf and the triumph of the knight, were worth-

less but as sanctioned by her smile of approbation. The Tales of Boccaccio, the old Romances, the illuminated missals and hours, led by degrees to the search for a higher literature and a truer learning; so that, at the breaking forth of the love of letters in Europe, the way was already prepared for their reception and just appreciation. Education, decency, what is understood by good breeding, laws of society—all these take much of their complexion and most of their beneficence from the sex, who thus, while disfranchised, as it were, by the political constitution of the world, are yet, in fact, the secret promoters and moving power by which it is made both progressive and improving.

In speaking thus of the influence of women on society, I do not wish to disparage that of religion, of which they are justly to be viewed as the best promoters; nor would I lessen the sense of gratitude due to the wise philosophers, the good legislators, the ardent philanthropists, to whom we owe an impayable debt of reverence and praise. I am far from desiring to look on woman as the race—I contend that though she is unlike man in her fleshly nature, and different from him in her intellectual nature, yet she is a great and predominant Force in the world; physically weaker, yet not less noble; restrained of power, yet the cause and reward of his efforts—requiring his protection, his homage, his love, yet repaying him in the perpetual provocation she offers to noble endeavor; more than compensating him for her support, by the rearing of his offspring, and by the humanizing, softening, meliorating influence which she carries into his public as well as his domestic life.

As for her beauty—in what words should we attempt to describe its enchantments? It overpowers the imagination, which in vain seeks fitting objects with which to compare it. In great female beauty there is something almost holy—it compels love, respect—even reverence.

> "I saw her coral lips to move,
> And with her breath she did perfume the air;
> Sacred and sweet was all I saw in her."
>
> Lucentio.

In ruder times than now, female beauty exercised its sovereign dominion in the heart, and touched and fired the imagination. Take the following verses from the famous *Roman de la Rose*, which, even in its quaint expressions, reveals the humanizing power of woman's beauty.

> Le Guyschet, qui etoit de charme,
> Me ouvrit une pucellette
> Qui assez etoit cointe et nette;
> Cheveulx eut blons comme ung bassin,
> La chair plus tendre que ung poussin,
> Front reluisant, sourcils voultis;
> L'entr œiul si n'etoit pas petis,

Ains fut assez grans par mésure;
Le nés eut bien faict à droicture;
Les yeulx eut vers comme faulcons,
Pour faire envie à tous homs;
Doulce alaine eut et savourée,
La face blanche et coulourée,
La bouche petite et grossette,
Et au menton une fossette;
Le col fut de bonne moyson,
Gros assez et long par raison,
Si n'avoit tache ne malan:
N'y eut jusqu'en Hierusalem
Femme qui si beau col portast,
Poly estoit semblant au tast;
La gorge avoit aussi blanche
Comme est la noif dessus la branche
Quant il à freschement neigé:
Si eut le corps bel et rengé;
Ne convenoit en nulle terre
Nulle plus beau corps de femme querre.

Le Roman de la Rose, p. 97.

But, alas gentlemen, why should I have attempted a theme too great for a volume, and far beyond my abilities? You see how I have failed. It requires the eloquence of a Roussel, and the learning and enthusiasm of a Virey, to present even a sketch of a topic so vast, so interesting, so closely related to whatever may be called happiness, whether domestic, or social, or political.

I hope you will study this subject better than I have done, or can do.

I do not believe in a physician who knows only calomel and rhubarb. I would have you fill your souls with knowledge; I would have you bathe in it as in an ocean. Were I young again, and could I appreciate as I now in some degree begin to do, the beauties of learning, I would not cast away, as I have done, a half century of time, but I would grow pale by the reflection of the midnight lamp, and I would never be satiated until my soul were satisfied with the fulness of knowledge. For what are we in the general but erring and curious inquirers? and, does not the most highly cultivated intelligence to be found among men leave them at last, even the most gifted among them, blind, groping, feeble worms of the dust? What should be our motto and our cry, from the lowness of the human nature in which we lie grovelling?—*Excelsior! Excelsior!*

C. D. M.

LETTER V.

SEXUAL ORGANS.

Gentlemen: In my Letters, I have set before you some general ideas as to the nature of sex in the female; and have also pointed out some of the more distinctive characteristics of that best half of our race. In this letter, I shall speak to you of the reproductive organs; begging you to accompany me in the disagreeable task of this investigation with minds purified by the love of truth, and with that decent self-respect which ought to guard every physician when he comes, as a part of his professional obligations, to study this department of anatomy; a department he cannot omit to learn without leaving himself incompetent to the safe discharge of many important medical and chirurgical duties; and which he cannot study without feeling that he is engaged in inquiries that ought not to be exposed to the public gaze.

Instead of treating in this letter of the private parts in question, I might perhaps as well have referred you to the anatomical treatises already published; but, by so doing, I feel that I should leave this volume less complete than it ought to be; hence I enter on this subject with reluctance. It is in itself, perhaps, to be regarded as obscene; and to show what outsiders think of such things, let me say that in a recent report of testimony given before one of our courts of justice, where a person was in question for having published an obscene book, pretending to be a medical work, a witness characterized it as "fit to be seen only in a Doctor's shop."

Let us take a lesson from this undesigned reproof of the medical faculty; and while we acknowledge that our ministry calls upon us to know all that can be learned as to the anatomy and physiology of the reproductive organs, let us admit also that it behooves us, out of a feeling of self-respect and respect to our calling, to treat these subjects with all decency, and with a just deference to our friends not of the profession; who, having no motives to acquire the knowledge we are compelled to obtain, must not be offended by any unavoidable indelicacy of expression in our writings. Such persons being as to us entirely strangers, ought not to suffer themselves to pry into those esoteric teachings of the medical profession, which it is better for them not to

learn than to know. If they look into our books and blush, they are like eaves-droppers, who generally hear no good of themselves. Good old Thomas Raynald, in the *Woman's Booke, or Byrthe of Mankynde*, speaking in the prologue, of non-professional and impertinent people who may "chance" to get possession of it, quaintly says:—

"The which thing when they shall do, here shall they heare of me, that they be in theyr doinges, neyther honest, good ne godly, but speakyng unreverently, contemptuously and untymely of such thinges, they do great injury, dishonour, and contumely to nature: For he that declareth any thyng in man or woman, privie or apart, talkyng and rehearsing it in reproche derision or confusion of his even Christen, can not be excused of mortalle and deadly sinne, for so muche as contumeliously he ashameth and confoundeth his even Christen, wherewith he bryngeth hym out of pacience, worrying hym to yre and vengeaunce, in rehearsyng of such thynges and after suche sort, as he knoeth shoulde agrieve and vexe his mynde; wherefore for suche dedes he shall not be accounted of the number of honest and sage persons, but of the light and lewde."

As for us, let us remember that the President of the Board of Trustees, who, in the name, and by authority of the State of Pennsylvania, admitted you to the rank and quality of Doctors in Medicine, declared you vested with the powers *exercendi, docendi et scribendi, ubi rite vocati fueritis;* and that this commission allows you a great privilege of discussion; which being needful in our art and for the security of the people, is decent and proper in our hands, but vile and *contra bonos mores* in the hands of other people. Fantoni, as cited by Dr. Asdrubali, in the *Trattato Générale di Ostetricia*, &c., p. 68, t. 1., says, "Honesta quantum potero, muliebria, examinando; *honeste*, inquam *si potero;* nam fieri vix posse puto, ut honestis apellationibus res vulgo obscænas designamus, quæ facile pudicas aures offendent. Sed vobis nullus sit pudor integris auribus ea excipere quæ divina sapientia creare non erubuit," &c.

The reproductive organs of the female are external and internal; the former being situated upon the outer face of the pelvis, and the latter concealed within its bony cavity.

A sense of modesty induced the ancients to give the denomination of pudenda to the external or visible privities of the female; and this word, which is a plural noun, applies to the whole of the external genitalia.

The pudenda, therefore, comprise the mons veneris; the labia externa, also called labia majora; the labia interna or minora, called also nymphæ; the clitoris; the præputium clitoridis; the vestibulum; the

os magnum; the carunculæ; the hymen; the fossa navicularis; the meatus, the fourchette, and the perineum.

The internal genitals are the vagina, or vulvo-uterine canal, as the Frenchmen call it; the uterus, or womb; the Fallopian tubes; the ovaries; the round ligaments, the broad ligaments, and the utero-sacral ligaments.

The word vulva applies to the sexual fissure, rima, or sulcus, that is observed between the two opposite labia majora.

Now, as to the mons veneris (*le Penil*), it is an elevated portion of skin, that is lifted above the general level of the lower part of the belly, partly because it is on the share-bone or os pubis, which projects above the general line or level, and partly because it is underlaid by a considerable quantity of adipose tissue distended with fat or oil.

This part of the skin is of a darker color than that which is above and about it, for it contains a portion of pigmentary membrane that deposits on the exterior surface of its corpus mucosum the same sort of dark matter as is known to color the axilla, the aureole of the mamma, the perineum &c. It is also covered abundantly with hair, which begins to make its appearance under the critical efforts of the constitution when those efforts are being employed to convert the creature from childhood to puberty;—or, in other words, when she is about obtaining such a degree of development as may consist with the power of germ-production. It is not unworthy of your observation, that when the power of germ-production is lost at the change of life, that of producing the pudendal hair is diminished very sensibly, and in old age, not unfrequently to the extent of a complete depilation.

Women also, who from feebler health cease to bear children, as they advance in age, but who have not wholly lost the faculty of germ-production, often find that the pudendal hairs are lessened in abundance during the suspension of the childbearing faculty; and that the quantity is greatly increased as soon as they find themselves again pregnant after many years have passed since any former gestation of theirs. This I have learned from several cases observed and inquired of in my clinical experience, for I have many times had charge of labors in women, who being as it is called getting old and not bearing children for eight, ten, or twelve years, were yet afterwards surprised and vexed to find themselves so wonderfully young again.

As to the disorders to which the structure called the mons veneris is liable, you will be sensible that they must be of the nature of the specific, the exanthematic, and the phlegmonous inflammations, or contusions and wounds; and that such affections have not and can not have any special relation to what is properly called midwifery. Perhaps, indeed,

we may except some rare samples of pain, neuralgia or inflammation of these textures connected with strains, or violence done to the symphysis pubis, either by the protracted influence of continued pressure and weight on the pubes by a heavy womb; or by injurious tension and even disruption of the symphysis or of the bone, during the transit of an overgrown fœtus or in a badly managed forceps operation. Where great violence is unhappily done to the bony structures either by the power of the womb, in its expulsive efforts, forcing too large a child through too small a pelvis; or where, by the additional power of the forceps, such a child is drawn through such a pelvis, the articulation of the pubis, which lies underneath the mons veneris, becomes so strained as to inflame after the labor is over: or the bone itself may be even broken asunder, as in some instances related by Madame Lachapelle in her admirable Treatise on Midwifery.

In any such cases, where pain is felt in the lower part of the mons, as I have heard many persons complain, it appears obvious that the same chirurgical treatment ought to be adopted as is known to be most suitable to the articular maladies in general. Professor Mütter has doubtless taught you that in the treatment of articular imflammations, rest is of the greatest importance; and that in the movable joints, when inflamed, a splint is the first and greatest of remedies. Hence, in the instances where your patients after childbirth shall complain of pain in the mons in walking or in turning in bed, you ought to direct your attention to the condition of the symphysis or joint of the pubis.

I have met with *many* instances wherein the ligaments that bind the ossa pubis together have become so relaxed, under the infiltrative influences of pressure and tension continually exerted by the gravid womb, as to allow of a very perceptible play of the opposite ends of the ossa pubis upon one another; the right pubis moving upwards when the woman stood upon the right foot, and the left one rising above its fellow again as she stood upon the left foot. In those women who do suffer from this relaxation, you must understand that they complain of it for weeks before the child is born, and should therefore refer the accident not to the labor, but, as I said, to the infiltrative tendency that results from weight, distension, and an excess of sanguine affluxion towards the pelvis. I leave you to imagine the pain, the discomfort, the uncertainty and the feebleness of gait, attending such a considerable or even any motion of this important joint. You fully know that the pubal bones cannot pass and repass each other without, in some degree, disturbing the repose of the sacro-iliac junctions; and I have shown you what sort of a cartilage that is, that we used to study under the denomination of the auricular cartilage of the sacrum and ileum. A cartilage so firm and resisting as that, could

not become the subject of motion without the greatest inconvenience. It could not be treated by means of internal medicines; nor could any counter-irritants, liniments, lotions, or plasters, or ointments, have a very useful effect in the treatment.

Hence, you perceive, my friends, that, for treating your patient complaining of such movableness of the joint, there is but one chirurgical principle; and that is, the joint must be allowed or compelled to rest. She must not make it move by walking about—for she can never transfer the weight of her body from one foot to the other, without transferring it from one acetabulum to the other; and you remember that the pubis owns one-fifth of the acetabulum, and you ought to know that an inflamed joint is nearly as unapt to be cured while motion is allowed in it as a broken bone; they equally demand the use of the splint. This is the treatment for disordered joints, suggested and used for half a century by our illustrous compatriot, Dr. Physick. In Europe, it is becoming understood, within a few years past.

I have tried various bandages, springs, and compresses, to relieve certain of my patients thus affected; but such bandages are intolerable, because they cannot be kept in adjustment. Some women have soon spontaneously recovered by means of rest, which permits the joint again to become firm; while others have continued to suffer more or less through successive pregnancies.—*Rest is the cure.*

I will not say, that where the disturbance of the joint has caused an attack of inflammatory congestion in the parts, rest alone is indicated—for, in such a state of things, the patient might very reasonably expect that you should seek to relieve her, further, by means of leeches; by counter-irritant applications; by stupes and cataplasms, and by anodyne liniments; for the selection of which remedies in particular, I must refer you to the indications of the special case and time—as well as to your memory, of what Professor Mütter has counselled on such topics. These remedies are, however, not dependable.—*Rest is the cure.*

I hope you will come to the conclusion, that wherever the symphyses of the pelvis are found loose and relaxed after gestation, that effect has been, as a general rule, produced by a maladive condition. I am fully of Dr. Dewees's opinion on this point, and he used to scout at the notion of the bones naturally yielding in order to let the child escape more easily.

Dr. Moreau, of Paris, whose work on midwifery is in the hands of many of you, seems to think that the relaxation of the ligaments of the pelvis is not an unusual or unheathful occurrence; his remarks on the subject are at page 46, tom. i. I should be glad if you would read attentively his relation of a case at page 47, as well as a most interesting

one at page 51. The perusal of them would serve to show you how to act under similar circumstances. My own experience has not given me any opportunity to observe such great disorders as he describes in his patients.

When I was in the city of Brussels, in the month of June, 1845, I paid a visit to the magnificent Hospital of St. John, in that city. The medical officer on duty that day was Dr. Grauiex, whose name is pronounced Gro. While accompanying him through the wards, and observing his methods of diagnosis, and of therapeutical direction, we arrived at the bedside of a very fine-looking young woman, about 22 years of age, who did not look at all as if in bad health. I found she had been for a considerable length of time under treatment for a catarrhus vesicæ, and that she had made no progress towards a cure. The frequent micturition was painful and annoying. Dr. Grauiex, after carefully examining the region of the bladder by palpation, took out a seton-needle already armed, and in a moment he passed a very long seton from side to side, near the upper edge or limit of the mons veneris, to the great chagrin and vexation of the young girl. But Dr. Grauiex was master in the case, and she was obliged to submit. I told him it was the first example I had seen of such a treatment of the troublesome disorder in question, when he rejoined that he regarded it as the most efficacious he had known; and that he had learned it at Paris, in the service of the illustrious surgeon, the Baron Dupuytren. Dr. Grauiex seemed to me to feel quite sure that his operation would cure the patient; but, as I very soon afterwards left the city, I am not able to state the result. I should think, from the opportunity I had of seeing Dr. Grauiex, and conversing with him, that his opinions on any chirurgical or medical subject are deserving of great respect.

I have related this case, not only in order that you may, if occasion should arise in your practice, resort to it for the treatment of some of the more rebellious forms of cystic irritation and inflammation, as well perhaps as for that of certain conditions of uterine function that do not yield to gentler modes; but because, I suppose, that where the symphysis pubis may have been injured in gestation or labor, leaving a chronical inflammatory state of the junction, you could hardly adopt a safer or surer remedy than this of Dr. Grauiex. It may seem out of place in this letter, but I trust, that whether apropos or not, you will find it apropos in the chronic maladies of the parts crowned by the mons veneris, and this is the reason why I make the suggestion in this place. It is true that I have not employed such a treatment in any case of chronic pain dependent on this forcing of the symphysis. I have in vain proposed it to a lady under my care, who would not accept

of the proposition on account of her natural timidity, as well as from the disagreeableness of an issue in such a locality.

I am not aware that the seton has been thus employed in this quarter by any of my friends.

Let us now proceed with our inquiries as to the other portions of the pudenda; and we shall find that the next in order is the part called the labia, the labia externa, or labia majora. They are called by Felix Plater, in his *Treatise de Partibus Mulierum Generationi Dicatis*, by the name of *Colles, seu monticuli.* The Greeks called them χείλος. Krauss, in his Lexicon, says that the Latin *labium* or *labrum*, is probably from the Greek λαβω. The German is s c h a a m l e f z e n, the French *grandes-lévres*, the Italian *grandi labbra pudende.*

In the young embryo, the whole body is open in front, and all the organs and viscera quite uncovered; but, in the process of development, the sides of the chest and belly, curving first forwards and then inwards, until their margins come into contact, at last fuse, or unite or solder, the one to the other, and thus the thorax and abdomen become at last converted into closed cavities.

In this process of union or fusion, a place is left for the entry and exit of the umbilical vessels, which is the umbilical ring; the margin of the anus is left unclosed; and the vulva, in like manner, refuses to allow the opposing mucous surfaces of the labia to be soldered together. This open space, then, is the vulva, or the genital fissure, rima, sinus pudoris, &c., on the right of which is the right labium, and on the left, the left labium majus. The upper end of the fissure, where the derm is disparted, is the superior, and the lower one the inferior commissure of the vulva. The labia extend from the one to the other commissure. The exterior surface of the labia is skin, covered with hairs, that diminish in abundance from above downwards. The interior aspect of the labia is a mucous tissue, which, in the young, is of a bright rose-color, but becomes of a darker and less sanguine hue, in persons of eighteen or twenty years old, and of a livid, purpureous tint in the more aged as well as in pregnant women.

In fat persons, the labia are plump, or even turgid; in the macilent they grow lean, and possess not the firmness and solidity observable in the former sort of persons.

The structure contained within the dermal and the mucous laminæ of the labia is a cellular tela; and, as before remarked, it is, in fat persons, filled with adipose cells. Of course, there is a good supply of bloodvessels and nerves and absorbents; so that they are the not unfrequent seats of inflammations, that have a very great proneness to run into the suppurative termination.

Inasmuch as the labia are also rather exposed to violence in falls, and blows; as by kicks; by falling astride of sticks and bars, &c., they present to us cases for surgical counsel and treatment not unfrequently.

The parts also are subjected to enormous elongation and pressure by the out-passing child, in parturition; so that they may be torn in the direction of their longitude, or fractured horizontally, or filled with vast deposits of blood, injected into their loose cellular laminæ, from rupture and wounds of the branches of the pudic vessels.

In anasarca, and in œdema gravidarum, the textures within the labia become greatly infiltrated; and dropsy of the labium renders it, at times, as thick as a man's arm, excessively tense, and exposed to attacks of erysipelatous inflammation, and to gangrene.

Here, therefore, you will find a fruitful source of trouble to the female, and opportunities to display your qualities as surgeon, physician, and gentleman; for I need not say, that without a just combination of all these qualities, you will never be acceptable as the medical counsel of those women who may be so unhappy as to find themselves compelled to sue to you for help in so great and mortifying a time of need.

Whenever, from an anasarcous condition, or from an œdema brought about by pressure of the gravid womb on the ascending currents of fluid, whether venous blood in the iliacs or cava, or lymph in the absorbing vessels, complaint is made of a painful or inconvenient tension of the labia externa, you will always, I suppose, feel it a duty to investigate the case for your own guidance, and not confide in any description that may be proffered by the patient or by her nurse. Neither the patient herself nor the nurse will be likely to understand the nature of the malady, and, therefore, neither of them can give you such correct information as is required for a proper diagnosis.

There are many instances of swollen or rather infiltrated and distended labia in pregnant women, which require no special direction from you; for, whenever, after an examination of the part, you can come to the conclusion that whatever fluid of infiltration is contained can readily be pressed out of the cellular tela by the thrust of the presentation against it, you will merely console your patient by assurance that no danger and little inconvenience are to be apprehended from her situation.

But, in certain other cases, in which labor is going on, or near at hand, you may deem the packing of fluid into the tissue to be so great as to expose the woman to risk of rupture of the labium, by the emerging head or buttock. Where you have any reason to fear such an accident, or that the labor may be protracted by the undue resistance of the labia, you may readily obviate the embarrassment by making a few punctures

on the inner face of the organ, with a narrow lancet, the point of which should be carried merely through the surface into the cellular meshes. From these punctures the fluid soon escapes, whereupon the labium collapses, and is more flaccid than before the tension came on.

Dr. Dewees speaks of infiltration as occurring without œdema of the legs. I have never met with such an instance; nor do I well know how it could occur except from a blow or a sting in like manner as occurs in the eyelid, which is not rarely infiltrated from blows upon the forehead. In case of any purely topical infiltration, it is to be expected that the water will immediately begin to flow off into the adjacent meshes; and, therefore, it will not require any medical prescription, beyond, perhaps, some cooling lotion, such as a dilute mixture of Goulard's extract, and water; or a weak solution of muriate of ammonia in vinegar and water, with the addition of tincture of opium. Cloths wrung out of such a solution should be applied to the swellings. Half an ounce of the salt, a gill of vinegar, and a tablespoonful of laudanum, mixed with a tumbler and a half of water, is the mixture that I commonly employ in similar cases.

I have never found any inconvenience to result from fine punctures of the labia, as above recommended; and I believe that it is best to make them, whenever the inducement is clearly perceived. I made such punctures in a bad case under my care a few years ago, during the process of distending the genitalia externa by the child's head, for I found that the packing of the cellular structure of the labium with water was so very firm as to prevent the yielding of the parts. Very soon after I had made the openings, the water within began to exude; whereupon, I delivered the woman with the forceps, without injuring her at all.

Now, you may very readily understand that where the œdema of the lower limbs has gone to the greatest extent, and the cause of the production of it still continues in force, not the labia pudendorum only, but the belly and chest, and even the upper extremities and head may have their cellular membrane filled; a sample by no means difficult to find in practice. I am sure I have seen a woman increased in weight at least thirty pounds, or more, by this infiltration alone.

You will also understand, that such a great œdema gravidarum must, to a certain degree, interfere with the health, and that the labor is likely, on that account alone, to be a bad one: but a bad labor will sometimes require you to resort to the aid of the forceps, while the head is still pretty high up in the pelvis. When this is the case, you cannot adjust the forceps to the child's head without carrying the lock very far backwards, and by thrusting the anterior edge of the perineum far

towards the anus and the coccyx. This you will be incapable of doing if the perineum be much infiltrated, thickened, and hardened, so as to resemble rather a piece of deal than the ductile material of which it naturally consists. The perineum will not go backwards for all your efforts or skill. I have been baffled in all attempts to get the blades of the forceps adjusted by this very resistance of the infiltrated perineum; but, when I have let the infiltration flow off through my punctures, then I rendered the perineum ductile again, and so could push it backwards and get my instrument *in sitû*.—Do you understand this?

Dr. Dewees appears to have treated some of these cases by venesection, by saline cathartics, and by doses of nitrate of potash repeated thrice a day. I believe that but little well-founded expectation of a cure of the œdema can be indulged until the termination of the pregnancy, whereupon the mechanical pressure of the gravid uterus being withdrawn, no further effusion takes place of serum within the cellular laminæ; and the fluid of infiltration being taken up by the absorbents, the dropsical appearances soon vanish. You ought to expect, however, and you should predict, that your patient, who has suffered the extreme of this œdema, will look pale, and be, in fact, feeble and anæmical for some time after the close of her gestation. As a general rule, she will demand the use of a nourishing diet, wine, and iron, as the most likely means to re-establish her hæmatosis.

In one of the worst cases of this œdema I have ever seen, Mrs. ————, a case in which I was seriously concerned for the safety of the lady, I found that the expulsion of the child was immediately followed by a very great diuresis, which removed within eighty hours the last vestiges of the vast and general infiltration. It is rare, I think, to find even the most œdematous leg containing any serum three days after the child is born.

In the course of your practice, you will be often called on to advise on the subject of œdema gravidarum. As it is extremely common for primipara women to have swollen legs in the last six weeks, and sometimes earlier, of their gestation, you ought never to forget that such a woman is more exposed than another to the alarming attack of eclampsia, or puerperal convulsion. You will find in Letter XXXVII. the account of a young lady in whom œdema occurred as early as the fifth month, and led to a dangerous eclampsia. In fact, I have known but few women in labor to have convulsions, except those affected with swelled legs. The pressure of the gravid womb on the ascending blood and on the absorbents causes the effusion of serum; the same pressure, be it observed, is exerted on the aorta, impeding the descending current of blood, and of course directing a more abundant circulation in the

trunks and branches of the subclavians and carotids; the consequence of which is an augmented arterial determination to the head and upper extremities. If you permit this morbid determination to continue unmitigated, the slow but sure foundation is laid for puerperal apoplexy and eclampsia. The woman should be bled and dieted in a prudent and careful way, and all massive obstructions, arising from a surcharged state of the colon ought to be obviated by gentle laxatives. I may incidentally remark that some writers are disposed to attribute the convulsive attacks of women in labor to an excess of the fibrinous element developed in the blood of pregnant women; but I advise you to reflect whether the explanation I have above given, does not explain the occurrence of such disorders far more satisfactorily.

I do not think you can reasonably expect to cure a considerable œdema by venesection; yet that it may be moderated by the use of the lancet and kept within safe bounds I do not doubt.

In some patients, you will find one or both of the labia swollen and painful from varices affecting the veins of the parts. The diagnosis is easily made by the Touch, and may be verified by inspection. There is nothing to be done, I believe, except to direct horizontal rest during the pregnancy. I have had two patients who always suffered excessively from this varix while pregnant, but only then.

I shall close this letter here, with the design of speaking to you in the next, of certain other disorders to which the labia are subject;—and I am very truly your friend and servant,

C. D. M.

LETTER VI.

WOUNDS, LACERATIONS OF LABIUM.

Gentlemen: I design in this letter to say something as to certain very distressing injuries of the labia, suffered by parturient women, and which are caused by the extreme tension of the labia themselves, or by the tension of other parts, whose accidents or diseases implicate these external textures.

You are acquainted with the origin of the pudic artery from the ischiadic, in some individuals, and in others from the internal iliac; and you are aware, that this vessel runs upward on the inner face of the ramus of the ischium, and sends branches forth to supply the external

organs. Now, it occasionally befalls a woman in labor, or one affected by a wound, to fracture or divide this pudica interna artery or a considerable branch of it;—and as the labium externum is full of loose cellular tela, it is easy to see how a rupture of the vessel may cause such a quantity of blood to be dashed into the distensible texture within the labium, as to give the appearance of an enormous tumor of a deep livid or even black color; and producing all the pain to be expected from laceration of the inward textures and the stretching of others not immediately broken, by quantities of congealed or fluid blood with which the organ becomes thoroughly soaked and filled.

The rupture of a vessel within the brain may suffice like a wooden wedge driven into it to tear the brain to pieces. So, in the spleen a vessel giving way tears that organ to pieces—and, in like manner, a broken trunk or branch of the pudic artery may demolish the internal texture of the labium majus. Dr. Kobelt has shown us, in his fine work entitled *De l'Appareil du Sens Génital des deux Sexes*, &c., translated from the German, by H. Kaula, M.D., that there exist, just beneath the arch of the pubis, two large vascular masses, which he calls the bulbs of the vestibule, one on each side, and each covered by the muscle called *constrictor cunni*. These bulbs or congeries of bloodvessels, send their blood through an abundant network of vessels, called *rete intermedium*, into the corpora cavernosa of the clitoris, and into its glans or corpus spongiosum. When the muscles or constrictors are excited, they press or squeeze the abundant blood within them through the rete intermedium up into the clitoritis, which becomes turgid or erect, and so develops the venereal orgasm. The bulbs of the vestibule are the analogues of the bulb of the urethra in the male, and have the same sort of constrictor muscles to compress them, and turn their contents forwards into the glans. Now, consider whether these bulbs of the vestibule are not liable to be injured in certain labors, and by mishandled instruments, and whether accidents of this kind may not produce distressing cases of thrombus of the labia!

I have seen examples of labial thrombus of various degrees of severity. Some of them were discovered before the termination of the labor, and others not until many hours subsequent to the accouchement. In the cases where the mischief is not complained of until long after the child is born, we may infer that the bulb of the vestibule has given way during the expanded state of the inner genitalia, and which could not bleed while they were so expanded, but commenced to scatter the extravasation within them, as soon as the distending and compressing cause was withdrawn. Such cases are less likely, I think, to prove mischievous than the other sort, in which the labium begins to swell before the

child's head has descended so far as to push the labium aside. When the labium fills in this way, antecedently to the emergence of the presentation from the arch of the pubis, we must suppose it to arise from the rupture of a trunk, not the bulb. It is therefore more dangerous.

The quantity of fluid thus extravasated is surprisingly great; and doubtless the bloody infiltration will run backwards into the loose cellular laminæ that are in relation with the sides of the vagina; producing disorder and difficulties to an unknown extent within; in addition to the more visible and tangible marks of them on the front of the pelvis.

A lady in this city was in labor of her first child in ——, 1844, and after long-continued efforts to dilate a rigid os uteri, drove the head into the vagina, where it rested, on account of a complete cessation of the pains, from exhaustion of the supply of uterine innervation. Her medical attendant, intent on procuring the expulsion of the fœtus, administered to her a portion of secale cornutum, the influence of which was soon manifested by the renewal of the labor contractions in great force. The ergotic spasm thus excited gave way, after no very long interval, from a second exhaustion of the nervous energy directed into the womb;—and it was found that the left side of the vagina, the parts about the left crus ischii, and the left labium, were swollen, tense, and painful. Being called to a consultation upon the case, I observed a large protrusion of the left half of the perineum occasioned by bloody extravasation, which had gone so far backwards as to fill the cellular material in front and to the left of the rectum; while the looser texture of the labium had been rendered by it as turgid and dark as possible.

It would have been impossible to extract the fœtus from such a canal as was thus prepared, and as the indication was to use the forceps, I prepared the way for their successful application by making an incision into the inner and lower surface of the labium, out of which I extracted by means of the finger, which passed far inwards, a great quantity of coagulated blood, besides much fluid blood, and serum; which being done, I next adjusted the forceps to the head, and painfully, slowly, and with much effort extracted the child, which was dead.

The patient was sorely exhausted by such a dreadful labor. Her very bad pulse did not amend after the delivery; the injured parts were attacked with erysipelas, to which she fell a victim, in the course of a few days.

I have thus given an account of a case which I hope may set, in a clear point of view, the nature and dangers of these bloody infiltrations; and I wish the perusal of it may set you on guard against similar occurrences, of which you may hereafter perhaps become the agitated observers. I should think the foregoing remarks enough to show you that the mere

filling up a labium is a matter of small consequence, in comparison with the inward mischief and demolition likely to accompany such accidents. I pray you, then, not to disregard the complaints of your patients in childbed, as to the affections of the external genitals; but the rather, that you be sure to pay very great regard to them, nor suffer the fastidiousness of a modest female, or your own sense of delicacy, to prevent a complete and early investigation.

Do you not think that if a patient under your care, in labor, should begin to have extravasation (thrombus) filling up the labium, it would be charitable, and dutiful, and prudential to lay open the mucous surface by an incision conducted in the longitude of the organ, and deep enough to give issue to the infiltrating blood? Would not such an aperture, by allowing the hemorrhage to exhaust itself upon cloths or napkins, prevent it from tearing to pieces, or obstructing the lax textures outside of the vagina and inside of the pelvis? Be you the judges to decide upon any case presented in the course of your practice. I think, that where a labium is already filled with blood, before the distending power of the head begins to be exerted upon it, if you allow the injecting force of the hemorrhage to go on unchecked or unrestrained, you will have reason to dread the extending of the thrombus to very deep-seated textures; and hence I should much prefer to allow the fluid to escape outwards through an incision made on the mucous face of the labium. If you should have occasion to make such an incision for any patient, pray be careful to insert the lancet in a place sufficiently far downwards on the ramus of the ischium, for the vascular bulb of the vestibule, which lies quite high up on the pubic ramus, might be wounded by the instrument, and under such circumstances, might bleed in a very troublesome way.

I pray you to consult Dr. Dewees's article on this subject, in the *Treatise on Females;* it is a very good one, and you ought certainly to consult the writings of that celebrated man—the more especially as he is an American authority.

I have said nothing of the after treatment of the accident. Of course you will not expect to discharge from the thrombus all the blood contained in it, by an incision. You will get out all the coagula, in very great quantity, and press out much fluid blood and serum of the coagulations. The removal of the rest will take place, partly by outflowing under the textural contractility of the part, and partly by the absorbents, which will carry it away. I am sure I have seen at least a pint of blood effused beneath a man's skin, from a blow, taken up and carried away by the absorbents in about a fortnight.

The most convenient treatment will consist in emollient dressings, either of tepid water mixed with a little red wine or vinegar, or of flaxseed tea, mucilage of slippery elm applied as stupes or fomentations, or linseed or bread and milk poultices, or poultices composed of crumbs of bread mixed with the petals of chamomile. These dressings, when the tumefaction becomes sufficiently reduced, ought to be followed by cerate dressings: whether of simple cerate, basilicon, or Goulard's cerate. The selection will depend on your judgment as to the wants of the case.

When a woman has suffered from such an accident, it must be expected, if the injury be of a grave character, that she will have great pain and constitutional disturbance from it. I need not say, that you ought not to leave the nerve system to the unmitigated perception of such painful impressions; but that you ought to quell both its impressible and perceptive faculties, and keep them within moderate bounds, by the use of anodyne medicines in some convenient form; such as the Dover's powders, which may be repeated in doses of four grains every two, four, or six hours, until the therapeutical end of its exhibition is attained.

Should much febrile heat, and sanguine exaltation attend the early stages, you might perhaps prefer a medicine like the following recipe.

Take of fresh lemon juice, 1 tablespoonful; carb. of potash, 18 grains; mix them and add, solution of sulphate of morphia, $\frac{1}{8}$th of a grain; to make a draught, to be taken every two, four, or six hours.

It will be obvious, also, that where a full or tense pulse is found to accompany the accident, or to follow it as a consequence, it may be needful to reduce the force of the sanguine circulation, by venesection, to a proper extent.

During the treatment, the bladder of urine should not become over full, and the alvine dejection should be procured at least once in twenty-four hours. The most scrupulous cleanliness, as to the parts, ought to be insisted on—and all sour poultices, or remainders of dressings, carefully removed. But all these precautions would be of little avail, without the most profound recumbent rest. She should not leave her couch until cured.

Watch such a patient vigilantly. She is always to be esteemed, until suppuration is established, in danger of erysipelas of the wounded parts. If attacked with erysipelas, she will scarcely escape death from peritoneal fever. I say, then, watch such a patient well, through the dangerous five or six days ensuing the accouchement. If the disposition to erysipelas become manifest, you should apply the nitrate of

silver pencil freely to all the *inflaming* skin, if not to the very margin or lips of the wound. The antiphlogistic power of the nitrate is probably the most dependable of your resources for such circumstances, and it may be handled so as not to give any pain.

C. D. M.

LETTER VII.

WOUNDS, LACERATIONS OF THE LABIA, ETC.

Gentlemen: Besides the affections I have now treated of in the two former letters, the labia externa are subject to rupture or laceration, not attended with the terrible conjunction of concealed hemorrhage, last spoken of. Indeed, it would, *à priori*, be evident to you, that a fracture of the tissue, laying it open to the air, would not consist with the formation of a thrombus within its walls.

It is always a subject of regret when the labium is torn in labor, for I presume that no professional rank or station of the accoucheur could preserve him from the maligning tongues that are so fond to wag against their betters. The more exalted your station, the more will you be liable to the assaults of the envious and the malignant; who will not fail to spread abroad the bruit of the misfortune, accusing you of ignorance, inattention, or rashness; and averring that *you tore her dreadfully;* when they do not know, that your knowledge of Professor Carus's curve and the agents in the extension of the head, with your own honest, faithful regard to duty, could not, all combined, prevent the innocent head of the child from breaking in pieces an obstruction which it could not otherwise overcome.

I doubt not, my friends, after the repeated illustrations made in your presence, that you perfectly understand why it is the head of the child, which in vertex presentations enters the pelvis obliquely and in flexion —descends and rotates still in flexion, until the occiput, being engaged under the crown of the pubal arch, it is pressed upwards, or extended, as it emerges, along the exterior face of the symphysis, being compelled to move so, coincidently with Carus's curve, by the strongly resisting perineum, against which the crown is driven by the labor throes.

You may remember that I urged you not only to aid the perineum to compel the extension, but to aid it in compelling the head to move out in coincidence with Carus's curve; and that because, should it quit Carus's

curve at a tangent, or not extend, the perineum must give way, or a labium must be broken off, or perhaps both of them be detached some where in their longitude; a horrid accident, which I trust may never occur in the hands of any member of the class.

Only conceive of a rent commencing at the lower end of the labium, and running back through the whole thinned structure of the perineum, not thicker than this sheet of paper sometimes, so as to burst through into the rectum. Take care, then, I pray you, of the women, who, under faith of your diploma, or your acknowledged skill, commit such important interests into your charge.

Let me warn you against the risk of cutting the perineum with the child's elbow. You will be very apt to allow the accident to happen whenever the child's hand, in a vertex presentation, descends, applied to its face or throat; for the ulna of the child lies in contact with the posterior wall of the vagina, and as it slides forth, and comes to press with its olecranon on the fourchette, that olecranon cuts the edge of the tissue like a sharp knife, and when the edge is once cut through, the rest of the structure is instantly torn or lacerated to a greater or less extent, giving the patient a lacerated wound that can scarcely heal but by granulation—whence, I beg you be careful to prevent the accident, which I have so often told you can only be prevented by supporting the perineum, knowing why, and how it is to be supported.

A laceration extending into the bowels is very difficult of cure, and never will be cured, provided any sloughing process should attend the inevitably consequent inflammation. If uncured, the woman becomes converted into a monotrême, and is a pitiable object for the balance of her existence here. Take you, then, scrupulous heed to the tedious doctrines of the mechanism of the pelvis and head in labor, and never lose sight of them in conducting your cases, and especially your cases terminated with instruments. I have been for many years engaged in midwifery practice to a great extent of occupation, and I defy any one to point out the sample of a female who has suffered under any durable lesion or disability of the organs concerned in the transmission of the fœtus, under my administration over labors. I confess I take pleasure in claiming the merit of such a success, not as impertinently arrogating any superiority of skill over my brethren, but as evidence of the good results that must ever attend a watchful care over those who are committed to our hands.

When a labium gives way in labor, it is because of some too sudden and violent exertion of the expulsive force of the womb and the abdominal muscles, in the last agonies of the labor throes. The tenesmic sensations and propensities of a female, whose perineum is frightfully ex-

tended by the presenting part, are so keen and irresistible, that she cannot be prevented in some cases—I might say in many cases—from an involuntary excessive effort to free herself from them; and I have made it a rule to give due warning beforehand, and exhortation to strict obedience to the directions I should give as to not bearing down the pains; and then, reflecting on the causes of the extension of the head, and the direction of the axis of the plane of the perineal strait, have safely guarded my patient against injury. In the case of a very strong, healthful primipara, who had been long in labor in November, 1847, the waters had been completely drained off for some hours. Before auscultation of the womb, I had reason to think the child's life in imminent peril from the unmitigated pressure of the uterus; and as it was probable the infant could not be born spontaneously in the course of the coming hour or two hours, I adjusted my Davis's forceps to the head. As soon as the adjustment was completed, she was seized with a pain, and drove so violently down, that the head inclosed in the forceps absolutely seemed to leap into the world in an instant; nor could I prevent her from using the force. The rush of the head lacerated the skin of the perineum at least an inch; but she recovered without any injury from the wound. In this case, the instrument seemed to serve as a railway path for the head to glide on.

Do not, I pray you, accuse me of quitting my proper task here in order to talk to you again of a purely obstetric subject. I am well aware that my letter relates to the accidents that befall the labia and perineum; but I cannot forget the sound though homely adage—that prevention is better than cure; and I deem my remarks germain to the subject in hand; and hope that they may serve, if not to eschew fractures of the labia in the whole, yet, at least, to render them less common, extensive, and mischievous; nor do I doubt of your success in eschewing them, if you should suffer yourselves to be governed by these views.

When the accident has occurred, there is but little reason to hope for union by the first intention, as the surgeons call it. How, indeed, could we expect such a union of parts not cut asunder by a sharp instrument, but torn by violence. The raw surfaces are surfaces of laceration, and can, in the general, only be reaccommodated by the process of granulation—a tedious process.

It will not be necessary to keep them in contact by sutures—plasters cannot repose upon surfaces continually bathed by the lochial, mucous, and purulent as well as urinary excretions. The suture only adds to the sum of the local injury, and is not unapt to generate an erysipelatous propensity in the parts. Sutures are not necessary to keep the surfaces approximated, which being done, the chirurgical indication is

fulfilled. Stupes of warm wine and water, or mucilages; the poultices, and cerate dressings, together with a prohibition to abduct the thighs, are all that ought to be ordered, beyond the scrupulous regard to cleanliness that to every one interested must be obviously proper.

It is a good precaution to fit loosely a garter to each leg, and to tie the garters together by a tape, in such manner as to prevent any inconvenient abduction of the knees. Most of the cases of considerable laceration, whether of the labia or perineum, may be expected to recover by the time the purification of the woman is complete—say within the month.

I have met with four cases of injury to the perineum by laceration, where union had never taken place, and never could take place; because, in fact, the anterior perineum being divided as far back as the rectum, laying that intestine quite open, the sides of the cut became each incarned and covered with a real mucous membrane, so that the woman, instead of having a vagina and rectum, had only a true cloaca, into which were discharged the products of the rectum, the uterus, and on some occasions part of the urine; for the posterior semi-circumference of the anus was now converted into the posterior commissure of the vulva. So that, in fact, the labium extended back to the inner wall of the anus on each side. Even in such a dreadful case as this, the lady rarely is affected with any leakage from the gut; for she discharges the alvus as regularly as any other person, save when attacked with diarrhœa. Her protection from the disgusting incommodity of non-retention of the feces is owing to the preservation of the upper bands of the sphincter of the rectum, which I have found very completely to close the new-formed anus, which was invisible, because concealed within the depths of the new accidental vulva or cloaca. Where all the fibres of the sphincter are lost, there must be a constant drain of offensive matters from the intestine; enough to render the creature an object of pity to others, and of aversion to her own conscious self. Life, to such an individual, is rather an insupportable burden than a boon. How anxiously should you, therefore, direct the resources of your information to obviate such a great disaster.

I may as well, in this connection, call your attention to another circumstance. It is this—the perineum being taken away, the vagina torn open very far upwards, and its strength thus reduced, the unhappy female has not a prolapsion merely, but a true procidentia of the womb, which, descending more and more with the progressive advance of age and debility of the parts, causes the patient to endure much pain, and to become subject to erosions and inflammations of the now exposed tissues. You cannot sustain them with a globe, a disk, or an

elytroid pessary which will not be retained, but you can always keep the prolapsed parts high up within the pelvis by that admirable stem-pessary of Dr. James Blundell, which I exhibited to you during our meetings in the lecture-room. You will find my watch-spring pessary also a good one in such cases. I am pleased to find myself able to assure you that good hopes may be entertained, therefore, as to the means of comforting those who become the subjects of these great obstetrical catastrophes—for to be connected with the management of a case, that offers no hopes of a remedy during a long lifetime, is truly to be unfortunate.

In addition to the affections of the labia above mentioned, you should make yourselves aware that the textures within the mucous surface of the organ are capable of developing cysts and also more solid tumors. These cysts sometimes attain a considerable size.

We are indebted to Dr. Huguier, of Paris, for a memoir read at the National Academy of Medicine, and published in the Memoirs of that body, vol. 15, 1852, for a revival of our knowledge of what is commonly called Duverney's gland. This apparatus, which was familiarly known to the profession in the seventeenth century, was wholly lost sight of again, until Dr. H. restored and improved our knowledge of it in the paper above mentioned. He describes it as belonging to the order of the conglomerate glands. It is placed between the vagina and the vulva, on the side of the former, about a quarter of an inch above the superior face of the hymen, or caruncles. It is about a quarter of an inch from the internal surface of the ascending ramus ischii. It is shaped like, and is about as large, as an apricot stone. It has an excretory duct or tube, that opens in the vulva, behind the caruncles or hymen. It has a crescent-like operculum, or fold, that serves to conceal it, in a measure. Its orifice is generally surrounded by a vascular areola.

This gland not rarely becomes inflamed or slowly diseased, and its tube may become obstructed so that it becomes distended, being filled with fluid of the secretion, or with pus, and so is converted into an abscess. Dr. Huguier has appended to his paper several very good engravings that explain his cases remarkably well. I advise you, when an opportunity presents, to examine his essay; it will show you that many cases of supposed abscess of the labium are nothing more than instances in which the excretory duct of this gland has become distended, and that the contents may be squeezed out without cutting the tissue. I have seen such a case. He also relates cases, where the gland having become permanently diseased, it was extirpated with success.

Upon pinching a vaginal cyst betwixt the thumb and finger, or upon

pressing it with a palp of the forefinger, it is observed to be soft and fluctuating. There is little pain accompanying it necessarily; but the presence and pressure of the sac may induce pain at last in the surrounding textures. There is some danger of making a mistake in the diagnosis, provided one be careless in his inquiries. For example, a lump, or tumor within the labium, might consist of a hernia of a portion of the bladder, or a distended tube of the gland of Duverney; and it is within the bounds of possibility that the tumor should be formed by a descended knuckle of intestine. I am sure, however, that not one of you will ever be so imprudent as to venture on discharging the contents of any labial tumor, by means of the lancet, or bistoury without first taking care to ascertain the true nature of the case. A true cyst will always be found perfectly circumscribed, movable, fluctuating, and indolent.

The surgical method of treatment of the cyst, consists in dissecting out the whole sac. If you merely open it, and allow the contents to escape, the organic apparatus, being undestroyed, you may expect the sac to fill again. Perhaps, however, were you to fill the cavity with port and water, or with a solution of iodine, you might reasonably expect to produce granulating inflammation, which would obliterate the cavity; or it is an easy and prudent step to pass a seton through the centre of the sac—using for that purpose a very large, curved surgeon's needle with two or four strands of silken thread. Inflammation thus excited would, after withdrawing the seton in three or four days, in all probability cure the evil by obliterating the special secretory membrane, or cyst.

Women are sometimes plagued with a growth of verrucæ or warts, that spring in dozens or hundreds from the whole surface of the sinus pudoris. They are, in certain cases, so abundant as to dispart the labia, filling up the entire sulcus, and rising as a great convex mass of pale cauliflower-looking tumor, quite convex above the general level. Upon pulling the labia farther apart, so as to open the *sinus pudoris*, they are perceived to be small warty excrescences from the mucous body of the mucous membrane, and differ not from the warts on children's fingers, except by their greater softness, which depends on their being always bathed with the sort of milky humor of the labial membrane. They often bleed when touched, and when pinched off with the fingernails the broken surface trickles with blood, which soon ceases to flow. I have found that, when the entire labium right and left, has been quite incrusted with warts as above, I could with the probe separate them anywhere, for they are distinct from, though in lateral contact with one another. You will readily include a great number of them in a ligature, which being tightly tied, they drop off after some hours.

The readiest way to remove them is to snip them off, several at a time, with scissors, curved on the flat. This being done, and the surface being lightly touched with the nitrate of silver pencil, or with a solution of sulphate of copper, the mucous tissue is not very likely to reproduce them. I doubt not they are hypertrophied papillæ of the corpus mucosum of the genito-urinary tissue.

There occurred a very singular case under the care of Professor Brainerd, of Chicago. I shall take the liberty of laying before you a copy of his letter, describing the case, for which I trust he will receive as my apology, the great interest inherent in such an occurrence, and the desire I have that you should all have the opportunity to follow his example of treatment, should you happen to meet with individuals similarly affected.

The letter is addressed to Dr. J. F. Meigs, of this city.

CHICAGO, *February* 20, 1847.

DEAR SIR: Accompanying this you will receive a specimen of morbid growth, of whose nature I am very doubtful. Knowing the interest you take in the diseases of females, and the researches your father has made in relation to all classes of these affections, I have sent you this in the hope that, by his aid, you would be able to enlighten me in relation to its class and character.

The little girl from whom it was taken is the daughter of healthy parents, residing in Du Puy Co., Illinois, is nineteen months old, and was first seen by me on the 29th of January, ult. On examination, the abdomen was found to be much enlarged, an oval tumor extending from the pubis to the umbilicus, which gave the sensation of fluctuation. From the vagina there projected a substance having every appearance of a common gelatinous polypus of the nostril, being about an inch in length, and two lines in thickness. The urine was constantly dribbling away, the bowels constipated, much emaciation, and derangement of the health.

The history of the case was as follows: Nine weeks previously there was noticed a discharge from the vagina, mucous at first, and afterwards occasionally bloody. When this had continued four weeks, small semi-gelatinous bodies of the size of peas were discharged with it from time to time. At length the gelatinous bodies began to protrude from the vulva, the protrusion being preceded and accompanied by pains and straining, which were compared by the mother to those of labor. When exposed to the air, these bodies soon became red, then brown; shrunk, and sloughed, and were succeeded by others, which in turn fell

off. The enlargement of the abdomen was more recent than the discharge.

Judging, from the fluctuation and the almost constant discharge of urine, that the abdominal tumor might depend upon retention of urine, I introduced a catheter, and found this to be the case; about twenty-four ounces were discharged, and the tumor entirely disappeared. Directing my attention then to the growth protruding from the vulva, I introduced a nasal polypus forceps into the vagina, seized it, and, with but slight force, separated and brought it away. This was repeated several times, and each time a reddish body, resembling a gelatinous polypus of the nostril was extracted. Finding the vagina still full and distended with such growths, I desisted from further attempts, and, on the first of February, inst., made use of the double canula and ligature, as for uterine polypus, embracing as much as possible of the growth. On tightening the ligature, it readily divided the parts embraced, and the withdrawal of the canula was followed by the discharge of a great number of the same substances; but, by scarcely any hemorrhage.

This operation was repeated either with the ligature or forceps daily, for a week, and each time a large number of pieces were obtained, one dozen each day would be a low estimate; and every day they increased in number, but diminished in size. Finding this to be the course of things, I introduced a sponge tent for the purpose of dilating the orifice of the vagina, which had been already to a great degree effected by the protruding bodies, and soon effected my object, so as to allow of the introduction of the finger very easily. The vagina was found dilated so as entirely to fill the pelvis, pressing upon the rectum and urethra, and rising above the superior strait; its sides were invested by the same bodies which had been extracted in such quantities. They adhered firmly over the greater part of its surface. Scraping it with as much force as was safe with such a structure, the finger was withdrawn, and immediately from fifty to one hundred of the bodies of small size followed. This operation was repeated daily several times, until but few followed, and there only remained behind an indurated spot upon the posterior surface of the canal, which seemed a matrix for the whole, and which could not be detached by moderate force. Having found, by the number and rapid growth of these bodies, that they would undoubtedly be reproduced, the next point was to prevent this danger, and it occurred to me that some substance capable of coagulating albumen promptly, without acting too energetically upon the animal tissues, would succeed. A strong solution of alum was chosen and injected, a compress being applied to retain it. This was

followed by the discharge of much coagulated albumen, of which thick layers were every day removed from the indurated points of the walls, until they seemed natural. The injection of alum-water was continued for several days longer, simple warm water being also used for cleanliness. The discharge gradually diminished and ceased.

At the last examination, the vagina was contracted so as barely to admit the finger, and seemed perfectly natural. The os uteri, which had not been distinctly felt before, was perceived, in form of a small tubercle, the orifice just perceptible, showing the uterus to have been unaffected.

The urine required to be drawn for the first week, but since that time she has gradually reacquired the power of discharging it; gradually improving in health and appearance until the present time, when she may be said to be quite well.

Some of the bodies removed in this case are the specimens sent, and you have only to suppose them larger, softer, and semi-translucent, and you will form an opinion of what they resembled when first discharged. They are only changed by the effect of alcohol. They were distinctly vesicular. The largest were an inch and a half in length, and an inch broad; the smallest not more than a fiftieth part as large.

At first I supposed them to be polypi, but soon perceived that such was not the case, since they had been discharged and removed to the number of several hundreds in all, and were evidently attached one upon the other in some points. So that I know not what they may be, unless it is an animal growth, allied to the acephalocyst, of which there are, I believe, several kinds, found sometimes in animals, and of which this may be a rare or unknown variety. Will you present the case, with my respects, to your father, and inform me, if convenient, of the opinion he may form of it?

Very sincerely, your friend,

D. BRAINERD.

Dr. Brainerd sent several of these curious bodies. I found, on examining them with a good doublet, that they were not cysts, but solid bodies, more resembling a mere sarcode than anything else. They were without hooks, or other apparent apparatus. I could not adopt Dr. B.'s supposition, that they constitute a variety of the acephalocyst, and like Dr. B. I remained uncertain as to their nature; but rather inclined to believe that they consisted of a morbid production of the corpus mucosum of the vaginal membrane. In this opinion I was correct. I saw Dr. B. at my house, July 21, 1851, when he informed me that the patient died three months after the above date, and that the

autopsy disclosed the womb and vagina filled with this morbid product of an heterologous mucous membrane.

There are a great many women who, when pregnant, are annoyed with a most distressing, and even intolerable pruritus of the vulva, affecting chiefly the inner face of the labia, mainly attacking the portions of them in a range with the nymphæ, and not irritating so severely the parts nearer the posterior commissure. The malady is not confined to the gravid female alone, but, I should suppose that ninety per cent. of the instances I have met with, have been in women *enceinte*.

Dr. Dewees appears, at times, to have found the mucous surface in these cases affected with aphthous inflammation. I have not seen such a case, though I have met with some that were to the last degree distressing—cases, in which the pruritus was so intolerable that the person could not resist the provocation to scratch, and even wound the surface with her nails. In such a state I have found the mucous body of the membrane of a Modena red, very dry and hot, but I have not observed aphthæ. In certain other samples, the dryness and redness were wanting; nor was there any sensible increase of the heat.

Should you be invited by your patients to give counsel on such a complaint, I advise you to make careful inquiries as to the presence or absence of redness, dryness, and heat; and where they exist in a subject not demanding or admitting the use of the lancet, to recommend the application of a few, say eight or twelve leeches, within the labial surfaces. If the signs be absent, it may not be worth while to trouble your patient with the leeching.

Some cooling laxative will be indicated in case of torpor of the bowels; and a comfortable diet should be prescribed. In such a patient, salted meats, gravies, spice, pepper, and spirituous and vinous drinks ought to be forbidden. The warm bath, or the hip bath, is a highly useful ordinance; and some proper lotion or application should be provided for the affected parts.

It seems obvious that this must be a case for the nitrate of silver to show its alterative powers; for if there be any sample of disease that would be likely to yield to it, this would seem to be, most probably, the very one. Yet, I am constrained to say, I have not generally found it to answer the purpose. Neither does vinegar, nor mucilage, nor cold, nor tepid water, nor laudanum and water, nor alum cure it; but this is true, viz. that very few cases fail to be either cured or kept within very moderate bounds, by the following recipe:—

Take of biborate of soda, half an ounce; distilled rose-water, six ounces; sulphate of morphia, six grains. Mix, and direct the lotion to be applied to the part affected many times a day.

You may also give relief by means of a liniment compound of melted lard and chloroform.

Every man becomes probably more or less a routinist in his methods. It is with me a routine to order the above compound lotion; and I aver to you, that I believe, if you order it for your patients, you will have very little trouble in curing most of them. I am speaking here of the general run of cases. Should you use this compound, and find yourselves disappointed as to its curative powers, you ought to request an opportunity to examine, by inspection, the peculiarities of the malady, in order to enable you to judge whether bloodletting, purging, emollients, nitrate of silver, or astringents and tonics should be preferred.

Many cases of this pruritus are dependent upon inflammation and engorgement of the cervix and os uteri. Should you meet with a very obstinate case of pruritus in a woman not pregnant, you ought to look at the os to learn whether the patient is to be cured by curing a disease of the uterus and not by merely addressing your remedies to the external genitalia. Vid. my Essay on the Acute and Chronic Diseases of the Cervix Uteri; for a fuller account of those cases of pruritus arising from the irritated cervix.

I was consulted for a young lady about twenty years of age, who suffered from an intolerable pruritus and uneasiness of the vulva. Her physician had prescribed many and various remedies in vain. He had examined, by inspection, the privities, but could not discover the cause; which, however, was not dissipated by his application of nitrate of silver, and other medicines. When I was called to give my opinion of the case, I was much surprised to find it attributable to a real trichiasis of the vulva. The hairs that grow usually on the derm, and then not very close to the epithelial surface, had sprung from the very margin of the mucous membrane of each labium. They were straight like eyelashes, and pointed inwards. It was from the tickling and pricking of the points of these hairs that her distress arose. They were all removed by her nurse with tweezers, and the complaint disappeared. I beg you to remember this case when, in some future perverse pruritus, you shall find yourselves baffled in your common attempts to cure the patient.

Ancient injuries, by laceration, by ulcers, and by fevers, may have contracted the external parts so much as greatly to interfere with the dilatations required for the transmission of the child in labor. Patience can, perhaps, overcome even the contractions of old cicatrices; but when you are called on to give your opinion in such cases, you would do well to have at the call of your memory the views of Dr. Dewees, who taught us that the most obdurate cicatrix may be rendered dilatable

under the influence of bleeding, ad deliquium animi. I have met with no such cases myself.

The labia are frequently the seats of a phlegmonous inflammation. The texture of the organ being very lax and distensible, the abscess formed within it generally points early, and always points on the mucous surface. I never yet met with one that did not end in suppuration; not because suppuration could not be prevented, but because the woman will never call for counsel until it is too late to expect any other termination. It is a simple matter, though a very vexatious and painful one.

You should open the abscess as soon as the fluctuation of the pus can be made out. The pain disappears with the cessation of the tension upon the escape of the pus. It is very common for a woman, who has had one labial abscess, to be troubled with several consecutive attacks of the same kind.

With these remarks, which appear to me sufficient to set the matters in question in a clear light, I have to conclude this letter with the assurance of my respectful consideration.

C. D. M.

LETTER VIII.

Gentlemen: There is another part of the system of organs contained within the pudenda, which deserves your professional attention —I mean the labia minora, or, as they are more generally denominated the nymphæ.

They are composed of an external or mucous membrane, within which there is an erectile spongy texture, which gives to them in the young, a certain degree of firmness, or hardness, that is not to be observed in individuals reduced by disease, or those who are advanced in age.

In the young and healthy female, the labia minora are of a rosaceous hue, which for such as have borne children, gives place to a dark, or even brownish tint. They are also much changed by the repeated excitement of the sexual passions, and are often after labor discovered to be permanently enlarged, or torn and ragged or jagged on their edges or sides, by the violence done to them during the extremest extension of the parts, by the outpassing child, or by the edges of instruments employed in its delivery.

In a young child newly born, it is usual to find the nymphæ jutting out beyond the genital rima—but very early—say by the end of the 14th or 20th day, the development of the labia majora, which proceeds rapidly as soon as the fœtal circulation is cut off, comes to cover up and wholly conceal the nymphæ; which, in the virgin, are not found to jut beyond the rima; whereas, the woman who has borne children, and who has suffered lesion of this organ in parturition, generally protrudes one, or both of them above or beyond the rima.

The physiological uses of the nymphæ are not agreed upon; but it is strange to find that such a writer as Dr. Campbell, in his *Introduction to the Study and Practice of Midwifery*, p. 31, should say that "they are supposed to direct the urine from the urethra, and prevent its flowing over the external parts, and they contribute to enlarge the vagina during the exit of the fœtus; for at this time they are quite obliterated."

Pray observe that, should the stream of urine touch the lower end of the nymphæ, it would be sure to flow over and bathe the whole perineum; and you will not forget my assurances in the lecture-room, that I had very repeatedly found during the extremest distension of the external genitalia, the nymphæ hard and well-marked along each side of the distending head of the child. You will find that Dr. Murat, in the article "Nymphes" of the *Dict. des Sci. Méd.*, avers that they do serve to the amplification of the vaginal orifice. It is incorrect to say so, since they belong not to the vagina, but are a sort of valvulæ conniventes of the labia majora, to whose enlargement in labor they contribute not, or if I am incorrect in saying not at all, at least I am surely correct to say very little.

Fabricius ab Aquapendente relates a case in which there was atresia of the vagina from imperforate hymen. The external part was protruded by the collection of the menstrua within. This distension had so effaced the nymphæ as to lead to the belief that the girl had none at all; but when the collection had been discharged and the external organs recovered their situs, the nymphæ were found to be perfect. This example is relied on by Dr. Murat in support of his view. But I ask you to consider whether the slow protusion and development caused by a gradual collection of blood within the womb and vagina, might not introduce changes in the character of the formation within the sinus pudoris, which could not be brought about by the rapid and rushing distensions of a common labor.

If such an addition were necessary for such a purpose as is pretended, it is probable that it would be found in the other warm-blooded animals; but we have Mr. Lawrence's assurance, in his *Comparative Anatomy*, p. 452, that none of the mammalia possess nymphæ, and there is in

general merely a thin border of the integuments instead of labia pudendorum.

In the case of diseased clitoris, of which I gave an account at p. 83 of my edition of M. Colombat's work, I carefully sought for the labia minora; and you will see, by reference to the cut at p. 84, that, notwithstanding the enormous tumor of the clitoris, they still preserved their visible physical character.

What, then, is the use of the nymphæ?—what their physiological function? It is to increase the surface of contact, and to bring the clitoris into contact, for the end to augment the aphrodisiac orgasm. That orgasm is probably essential as an agent in the fecundation of the germ, as, without its intervention, it is probable the tubes could not apply their fimbriæ to the ovary, and thus the ovulum would be lost.

It belongs to all women to possess them.

Among the various tribes of dark-skinned savages of Southern Africa, there is one called Bosjesman or Boschisman. Their women, it is averred, are all endowed with an appendage to the external organs which is called the Hottentot apron—*le tablier des Hottentottes*, though the Hottentot women are without it—the production belonging only to the Boschisman women. One of these women died in Paris, in 1816, and was dissected at the Jardin des Plantes. The tablier was found to be only a hypertrophied state of the two nymphæ, but so long and loose, and flap-like, that they could be turned up like hound's ears, above the symphysis pubis. It is a very remarkable ethnographical feature, and so far as I can learn belongs to only one tribe, and that a South African one. The tablier, to a certain extent, may be met with as an accidental hypertrophy among women, here and there, of all races; but that it should become an ethnographical peculiarity is fit to excite our surprise.

I find that our distinguished countryman, Horatio Hale, author of the Ethnographical and Philological results contained in the seventh volume of the United States Exploring Expedition, makes no mention of this structure as a feature of the numerous and diversified races in the South Seas.

Travellers in Abyssinia assert that it is a custom practised by the quasi Christians, under the government of Selahé Selassie, to circumcise the females at an early age, by the excision of a portion of the nymphæ; and it seems to have prevailed in that benighted land for centuries, probably from some misapprehension of the Mosaic injunction as to the rite for males.

These organs are endowed with a very high degree of sensibility, and as they have a copious circulation within, are subject to attacks of inflammation, whether accidental or specific. I have often found them

to be more or less lacerated in labors. In the general, such accidents happening to them have not required at my hands any special directions beyond that of keeping them as far as possible free from the irritating influence of sharp or acrid discharges. For the most part, the tissues within the sinus pudoris are maintained in an emollient state by the lochial excretion, and by the mucus which is yielded in great abundance by the genito-urinary mucus membrane. They do not, therefore, like a dermal and exposed surface, require lotions and emollient cataplasms, since they are buried within emollient surfaces.

I advise you, however, to think that if a woman be so unfortunate as to have a nympha half torn off, the monthly nurse ought to receive clear instruction as to keeping her patient very clean, by bathing the parts often enough with warm wine and water, or other convenient lotions, such as infusion of chamomile and linseed or slippery elm; for there is a vulgar and disgusting notion that a woman must not change her napkin often lest she stop her discharge thereby; and some of them are so fully imbued with this prejudice that they will allow the accumulated outpourings of the vagina and womb to putrefy on the napkins. Imagine the fetor that must accompany such a state of those putrescible materials hidden beneath warm bedclothes, and with the patient perhaps at a fever heat of 101 degrees of Fahrenheit.

I hope that you will be able to exercise your proper authority as medical counsel, and help within your sphere, to cast out of the popular mind not this only, but every error and vulgar prejudice that you may find to have descended from remote and barbarous ages. A young female, with whom I spoke about a week since on the subject of a sexual malady, assured me she had never been permitted to use any napkin during her catamenial periods. She had been early forbidden to do so by advice of the family physician, who insisted that the women who use some such receiver are subject to a more abundant effusion; and so the poor girl, for fear of a stoppage of her menses, was compelled for three days out of every twenty-eight to wear a soiled and bloody undergarment. What say you of such a counsellor?

I have not, in any case, found it necessary to secure the apposition of the torn edges of a nympha lacerated in labor. Should you, however, encounter a case where the organ is badly torn, it will perhaps be thought by you prudent to secure the apposition of the edges by means of a suture, either consisting of a single stitch, or of two interrupted ones.

These parts are sometimes torn by falls upon pointed objects, as the top of a chair, for example. If the wounding instrument be not sharp or cutting, but round or knobbed, you will understand that parts are

broken or ruptured, not cut. If a woman should slip off a step-ladder and fall on the round knob of a chair, her clothes covering her person might be driven under the arch of the pubis. Here the friction against the urethra and anterior wall of the vagina is sufficient to tear or break off the connection of the soft parts on or behind the symphysis pubis, pulling asunder one or both of the nymphæ, or of causing a dangerous wound of vessels of the clitoris that bleed with alarming rapidity. I have seen two women bleed nearly to death from this accident.

If you should be called to such a case, remember that you have the posterior aspect of the symphysis pubis, as a firm support to any pressure you may resolve to apply. Should you come in while the blood is flowing too fast, you can prepare a small disk of sponge or lint to be passed upwards in the vagina, behind the symphysis of the pubes, and held firmly against the bone, after adjusting the torn and bleeding tissues *in sitû*. Should you continue this pressure for some minutes, the flow and the affluxion might be thus arrested and obviated; and if not, then portions of lint or of sponge should be introduced into the vagina, and so adjusted as to cause them to press your disk of sponge against the wounded part. In this way, I saw a lady saved from a most alarming hemorrhage, produced by falling on the blunt knob of a chair, which was covered by all the thicknesses of her dress. Before adjusting the tampon, it is well to introduce a female catheter, which should be left several hours in the bladder.

I shall not fatigue you with any further remarks on the lacerations of the nymphæ; but shall defer to my next letter some remarks upon other affections of the parts under consideration. Meanwhile, I remain, &c. &c. C. D. M.

LETTER IX.

THE VAGINA.—THE HYMEN.

Gentlemen: The organ whose maladies we are now about to study is one of great interest to the obstetric practitioner, as well as to the physician, on account of the numerous and formidable maladies and accidents of which it is the subject. Connecting the external with the internal genitalia, and possessing relations to both, and to several other important structures, it will be well for you to give to the study of it considerable attention, since they mutually or interchangeably become

involved in diseases, whose whole nature and propensity you cannot understand unless you study all these relations.

It is a membranous tube, about four and a half inches in length, and capable of being considerably extended, on account of its great ductility. The interior of this tube consists of mucous membrane, whose free surfaces are continually lubricated with mucus, to prevent cohesion, as they are in contact in the living female. The mucous surface or coat of the vagina rests upon a pretty firm exterior basis, which is composed of a dense laminated cellular tissue, containing many vessels, whether sanguine or lymphatic; with nerves that are in considerable numbers and connected with distant and neighboring parts.

I do not regard the coat, or texture, on which the mucous body of the vagina reposes, as a fibrous one;—for I cannot readily comprehend why a fibrous tissue, save a muscular one, should be devoted to purposes so extraordinary as those to which it responds. Is it not, indeed, manifest that a fibrous organ could not become the subject of those enormous changes that are necessary to enable a vagina whose mucous surfaces are usually maintained in contact, to become large enough to admit of the birth of a child of seven, and sometimes of twelve, or even of fourteen pounds' weight? Such a fibrous organ would be irremediably broken to pieces by a single labor.

I have, after careful investigation of the structure, come to the conclusion that it consists in a very compact cellular tela, a substance well calculated to admit of the necessary expansibility; and elastic enough to cause it to regain its ordinary dimensions, not very long after the birth of the child. The submucous tissue, or laminæ, contains a great number of mucous glandules, while a great abundance of mucous follicles or lacunæ open on its free surface. Outside of the elastic or cellular coat, there exists a spongy texture, which is erectile to a certain extent. The lower or pelvic extremity is embraced by a quantity of muscular fibres, that seem to be continuations of the anterior portion of the sphincter ani muscle, and constitute a true sphincter for this vulvo-uterine canal.

At its outer extremity, it is attached to the os pubis by its anterior and lateral margins, whereas its posterior and lateral margins are attached to the perineum and labia pudendorum. Its upper end embraces the cervix uteri, which, filling that end of the tube, makes there a *cul-de-sac*, into which the surgical cervix projects half an inch, more or less. In front, it is attached to the bladder and urethra; behind, it touches the rectum, and is soldered to that gut, by the recto-vaginal septum, for about its middle third part; its upper third part rests on a peritoneal investment, and its lower third answers to that pyramidal

perineal tissue that lies betwixt the anus and the posterior and inferior extremity of the tube. On each side, the vagina corresponds to the cellular tissue inclosed within the ligamenta lata.

If you carry a curved trocar into the upper part of the vagina, close to the womb, and then turn its point forwards and upwards, and thrust it through the part, the point will enter the bladder, and open it—lower down, and near the outer end, the point will wound the female urethra.

If you carry the point high up and near the womb, turn it backwards and thrust it, you will cut into the peritoneal sac; an inch and a half lower down, the rectum will be pierced; and still lower down, the tissue of the perineum will receive the point. Turn your trocar sideways, and push it towards the ischium, it might be possible to drive the trocar to the plane without wounding anything but cellular tela, and the levator ani.

Pray take care to keep these things in mind in all your operations here, whether with the bistoury, the crotchet, the forceps, or the cautery. They will guide you, both in diagnosis and in practice.

The vagina, like all living tissues, is subject to various maladive affections springing from all those causes that can produce inflammation, and its sequelæ; such as blows, wounds, contusions, over-distension, long pressure, foreign substances, and poisons, whether animal, or other.

You will occasionally encounter cases in which, being consulted for your professional opinion, you discover that nature has failed to develop the vagina. For example, I have now under my care a young woman, who, upon attaining the age of puberty, did not become regular, as her mother had reason to expect. Instead of perceiving the menstrual discharge, she was, at stated intervals of about a month, attacked with severe pain in the hypogaster and loins, which, after tormenting her for several days, left her in pretty good health, to return again as usual, at the end of a month. The mother, when I was called, informed me that some sort of obstruction existed in the passage; and I was accordingly permitted to examine the parts by inspection. The girl was slender, weighing from ninety-five to a hundred pounds; about sixteen years old, and well developed in every particular, save that there was a cul-de-sac of the vagina, terminating less than one inch from the os magnum. There was a hard tumor to be felt jutting upwards above the plane of the superior strait, like the womb of a woman at quickening; save that it was hard and solid—not soft and compressible.

No access of exploration of this tumor could be had by way of the vagina, which, as I said, was a shallow blind sac.

By introducing the finger into the rectum, the tumor could be felt, presenting the same characters of hardness as above the strait, and the whole tumor was of a pyriform shape, like a developed womb of four or five months. Introducing a sound into the bladder, and carrying the right indicator into the rectum, it was easy, by pressing the point of the catheter against the finger, to explore the parts inclosed betwixt them; and thus to ascertain that the vagina positively failed at the bottom of the cul-de-sac.

You might here ask how I know that the vagina failed in its development, and that there was not some fine and delicate aperture and canal leading up to the womb and connecting the womb with the outer genitals. I should reply that I think a cautious examiner could hardly be deceived by his senses as to the presence or absence of a vaginal tissue between the point of the finger and that of the sound; and, as I could discover no such tissue, and as I know that cases of total failure are met with now and then, I have confidence in the accuracy of my tactile perception.

But there was one great uncertainty in relation to the case. I mean the uncertainty as to the nature of the cause that rendered the virgin's womb as large as that of a woman at quickening time. Of course, I could not but presume that it was distension, and that such distension could arise only from the collection within the womb, of the products of repeated menstruations having no way of escape.

I consulted, for the benefit of the patient, that distinguished surgeon Dr. Jacob Randolph, who, after a careful exploration of all the points of the case, agreed with me in opinion that it might be possible that the uterine extremity of the vagina might not have failed; and, in such case, the pudendal could perhaps be connected with the uterine extremity of the canal by means of an incision.

Dr. Randolph introduced a strong sound into the bladder, and gave me the staff to hold firmly, while with the left indicator in the bowel, he drew the bowel as far off as possible towards the sacrum in order to separate the bladder as widely as he could from the gut—for please understand, that we both conceived there was no tissue of the nature of a vagina betwixt them.

Prepared in this way, the surgeon, by means of strokes with his bistoury, which he directed from side to side, while the labia were strongly abducted in order to expose the bottom of the cul-de-sac, succeeded in carrying a deep incision accurately between the bladder and the rectum—without wounding either; of which there appeared great risk and probability. Dr. R., however, did not find any uterine portion of a vagina, although his incisions were so deep that he could nearly

bury the whole forefinger within the wound. Seeing, at length, that there was no hope of establishing a communication with the mouth of the womb in this manner, he brought the operation to a close. Introducing a silver bougie of near three inches in length, and one in diameter, to the bottom of the incision, he maintained it for several weeks in the artificial vagina thus prepared. This was done in the hope that the blood, supposed to be contained within the enlarged womb might, by some process of absorption of tissues, find its way into the artificial canal; which was a probable and reasonable expectation. This expectation utterly failed, however.

After many weeks, the periodical sufferings of the young woman being not only renewed but attended with augmented intenseness, with Dr. Randolph's approbation, I pushed a small curved trocar and canula quite into the central nucleus, if I may say so, of the womb. Upon withdrawing the style, nothing came away through the canula save a few drops of blood, so that I failed also, in this attempt. Yet I had the satisfaction to find that the wound made by the trocar was not followed by any disagreeable consequences, nor was the operation painful.

You will find upon consulting that fine work of Mr. Thomas Safford Lee, *On Tumors of the Uterus and its Appendages*, that Mr. Lee, at page 8, has the following paragraph:—

"Tumors of the womb are insensible. This statement at first appears startling, when we are aware that sensibility is one of the surest tests of their presence, when projecting into the cavity of the womb; but this sensibility depends upon the covering of the uterine cavity, which it receives in its descent. The tissue of the tumor itself is entirely deprived of nerves: I have seen a sharp-pointed probe introduced some inches into its substance, without the patient feeling anything beyond the first prick through the sensitive nervous membrane."

Do you ask me, then, what is the nature of this tumor?—I have to answer, that I do not know. It has not sensibly increased in size for the last three years; the girl is still in pretty good health, though she still is the subject of periodical pain, which is kept within bounds by the proper use of anodynes. The artificial vagina has disappeared, and the parts have returned to their congenital form.

I say the case is a mysterious one. I am sure it is not a case of distension, for I know that my trocar entered the very centre of the mass; and that any collected menses it might have contained would have flowed out through the canula. I repeat that I do not understand the nature of the tumor; but I have reason to suppose it consists of a solid mass

of tissue, essentially of the nature of womb-texture, but in some respects, hypertrophied and heterologue.

You will readily concur with me in the supposition, that were it a tumor from distension by menstrua, the uterus must by this time have acquired an enormous size—this not being the case, allows me to form only the conclusions above stated.

For another case of absence of the vagina, I beg to refer you to *Colombat's Treatise on Diseases of Women*, in which you will find, at page 119, the account by me, of a sample in which the vagina was wanting as well as the womb itself. I shall not quote it here. Mr. Colombat gives, at page 107, many cases of absence of the vagina; and at 108 relates, with details, a case treated by Dr. Stolz, of Strasburg. I must also refer you for these cases, which I prefer to do, as Colombat's work is everywhere accessible, and, moreover, so complete, as to fulfil all one's reasonable wants of information as to the surgery of these affections.

The instances of congenite absence of the vagina present, perhaps, but small grounds of hope as to the induction of a truly natural and healthy state of the organs by chirurgical means.

Not so, however, as regards the congenital narrowness or constriction of the canal.

I have met with instances of females in labor, in whom the vagina was so narrow as to admit only with force the forefinger in the taxis. Such a case was that, which I have stated in Colombat. I well remember my surprise at the difficulty of making examination of the labor in that lady's case, and I cannot now believe that the sexual act could have been properly consummated, notwithstanding she was pregnant and in labor.

I have also consigned, in the same volume, the history of a case of narrow vagina that was presented for my opinion in the year 1843. This married lady, whose vagina was not larger than a common silver probe, was cured without risk, and with very little pain, by the simple process of gradually dilating the passage, in which she lost no drop of blood, and suffered no attack of inflammation.

I wish that you would take the trouble to reflect carefully for a few moments, on the power we possess to overcome constrictions and narrownesses, by means of sponge tent, bougies, and other apparatus. You may perceive that a man with a urethra reduced for inches of its tractus to the size of a knitting-needle, can, in a few days of dextrous and gentle use of the bougie, have his urethra dilated to such a size, as to admit the largest lithontriptor; that the female urethra can be made to admit the index finger, the anus permit the whole hand to enter the

rectum, and the vagina give escape to a child of twelve pounds avoirdupois. Such reflections ought to convince you that the congenite narrownesses and constrictions of the vagina ought not to be treated with the knife, but with the dilater. You should also remember the relations of the vagina on its sides, and at its upper extremity, so as to reflect on the danger of wounding the peritoneum, or establishing in it a diathesis of inflammation, which, once begun, is not easily checked; and which, in fact, has been not rarely found to follow operations on the vagina, which it has caused to end in the death of the victim.

My counsel herein, is that when you shall be consulted for these maladies, you clearly explain the nature of the case—the modes of cure—their differences, and the time probably required to effect that cure; so that no disappointment or vexation may arise to embarrass you, or prevent your success.

A linen bougie can always be made to take the place of a probe, and you can augment the size of your cereoles from day to day. Half a yard of fine linen dipped in very hot white wax and cooled, furnishes cere-cloth, out of which you can cut pieces of suitable size, to be rolled up into cylindrical or conical forms. In the cities, there are always silversmiths who can manufacture for you light bougies of silver, from a quarter to two and a half inches in diameter, which, being galvanically gilt, last for a long time, and are exceedingly convenient and portable; the smaller ones sliding inside of the larger ones like a nest of pill-boxes.

I must offer you one caution on this head. Take the example so often presented in labors, of the dilatation of the parts, not by one resolute and unintermitted thrust, but by successive and long intermitted impulses. So, in the dilatation of the constricted vagina, keep in view the law of its dilatation in labors, which is done by a succession of efforts, with very considerable pauses or rests between each effort; do not endeavor to hurry the operation, therefore, but be satisfied to get on, however slowly; *festina lente* being the motto. If you go too fast, you will excite irritation or inflammation, which must be cured before you can go on again. If you go on slowly and gently, there will be, perhaps, some sense of soreness left for awhile after each dilatation, but it will not rise to the height of inflammation, but leave the parts soft, ductile, and humid, well prepared for the next attempt.

How often will you repeat these attempts? Once a day; not oftener; and it will be better occasionally to allow two days to elapse, provided there be reason to dread an irritative or inflammatory engorgement as the sequela of the last attempt.

Don't leave your patient imperfectly cured; by so doing you expose

her to danger of death in any labor that might follow the cure of the stricture. Dr. Brainerd, *Illinois Med. and Surg. Journ.* May, 1844, states a case in which the woman lost her life in labor by rupture of the vagina, which was obliged to give way, rather than allow of the dilatation of a stricture that had succeeded the second of two antecedent labors.

I advise you to look to a case that was published in 1712, in *l'Histoire de l'Académie des Sciences*, p. 35, and which I find quoted in Dr. D. D. Davis's great work *On Obstetric Medicine*, v. i. p. 102. The case was related by M. Antoine de Méry sur Seine: the end of a goose-quill could scarcely be forced into the vagina. It was not until ten years of married life that she conceived, and bore a son without harm or danger. I am sure any one of you would, in such a case, by means of cereoles, save the patient such ten years of suffering.

Let me again refer to Colombat for an account of the method I used in curing a case of contraction, by means of two longitudinal segments of a cylinder, which, being introduced separately, were afterwards strained asunder, by means of wooden cylinders, the size of which, small at the first operation, was larger at the subsequent ones. I have given a drawing of those cylinders, and the segments, at page 97 of *Colombat on Diseases of Females.*

I shall say no more here as to the congenital contractions of the vagina, under the belief that what I have already stated and referred to is sufficient for awakening your attention to the nature and cure of the evil.

The tube is subject to closure by imperforation of the hymen; and by cohesion of its surfaces.

The most common of these atresias is the case of cohesion of the sides of the vagina taking place in consequence of inflammation brought on by labor: the imperforate state of the membrana hymen is less frequently met with; at least I have had reason, during my professional life, to adopt this opinion from my own observations.

The words imperforation, atretism, occlusion, obturation, and cohesion, express, in fact, the idea of a closure of the canal; though you apply the terms imperforation, obturation, and occlusion, chiefly to the cases connected with faulty development of the hymen.

It is very improbable that a state of imperforation of the hymen will be ascertained to exist, until the age of puberty comes to expose the young woman to the consequences that follow the accumulations of menstrual excretions in the inner part of the vagina and womb.

The lateness of this discovery is a matter of some surprise, if we advert to the constant secretion of mucous fluid from the genital

mucous membranes; since it is difficult to conceive what becomes of all that is formed from childhood up to the fourteenth or fifteenth year. It must, of course, be removed by the absorbents; yet it would, *à priori*, seem improbable that so considerable a production could be taken up by the absorbing vessels. Such is the fact, however, for the imperforate girl is commonly not discovered to be so, until the menstrual age, and then she is affected with all the signs of menstruation, save the show.

Suppose the young woman should have thirteen menstruations in the course of the first year, and produce only three ounces each time, the sum of the several productions would amount to thirty-nine ounces, or nearly two pounds and a half. Of course, the whole accumulation would not reach so high a figure, because the thinner parts being continually absorbed, the remainder is reduced in quantity, and becomes thicker and more and more viscid, from the admixture of mucus and epithelium. But it must happen that at length, the vagina being overfull, the womb itself will enlarge or expand to receive the new monthly contribution.

Be not surprised, in such a case, to find the girl suspected of gravidity, neither be misled to confirm such a suspicion by discovering that the mammary glands sympathizing with the womb, are developed as in gestation, and that they even proceed so far as to secrete a portion of milk. The mammary gland may be regarded as a life-dependent of the womb, participating in its various states, whether in pregnancy or in disease. It is a fact that cannot be denied, that where the womb becomes augmented in volume, in the amount of its sanguine circulation, of its innervation, its absorption, &c., the mammæ sympathize with it, and they may form the milk, whether the change in the uterus proceeds from pregnancy, or from some other cause.

This is a case in which, from inexperience, you might be prone to run into error. Take heed, therefore, not to pronounce your opinion until, by all possible means of making it sure and clear, you feel enabled to speak with confidence on the case. Men of the highest professional rank have been, through careless or hasty diagnostical conclusions, led into the greatest perplexity; and some have thus ruined forever the fairest prospects of fortune and reputation. It is always a cause of mortification and regret to the brethren, when any one of their class brings discredit upon all, by exhibiting his own incompetency, whether through ignorance or want of circumspection. Be ever mindful, then, lest your errors and misconceptions redound, not to the hurt of your patient alone, but to your own shame and defeat, and the lessening of the authority and happy influence of all the members of your body.

Those are the truest friends of the profession, who honor it by their intelligence and probity. Such persons render medicine an honorable pursuit.

I have had one invaluable rule of action for many years past, which has served me so faithfully, that I shall tell you what it is. When a female comes to me to complain of failure of the catamenia, I scan as rapidly as I can, the state of her great vital functions, in order to discover any lesions or implications of them in her malady. That is to say, I observe her respiration, her circulation, and her general innervation. In using these words, I mean to express not only the idea of a certain number of respiratory acts per minute, or so many pulsations of the heart, or the vague and abstract idea of nervousness; but I mean all the physiological dependence and results of the oxygenating function of the lungs; the nutrient, calorific, and colorific action of the circulation, and the equableness and spontaneousness of the nerve power, as evinced in the countenance, gesture, station, and motions of the patient. When I can thus discover no signs of ill-health, I am at once aroused to the suspicion of gestation. But, a man must be a fool, who, in such delicate concerns, should breathe his thought. This is, of all cases, the case where one's left hand ought not to know what the right hand doeth.

Let us suppose, now, that a young person who ought to menstruate, but has never yet changed, should call upon you for counsel on account of a swelling and pain, or uneasiness in the region of the pelvis, while she exhibits no signs of disease beyond these now specified. What can you say, what do, what know? Is there any therapeutics for an unknown case? You can do nothing, nor know nothing, and you ought not to say anything, except, that you do not understand the nature of the malady, which it is, moreover, impossible for you to know without the taxis.

But this is a terrible decision to come to, as far as the poor patient is concerned; yet it is not your fault that she is unfortunate in being so situated. If she will suffer the proper inquiry to be made, there can be little doubt of your ability to procure the information, and you cannot undertake to cure until you know what is the matter. Let them call a midwife, whom you can instruct as to the visit she is to make; or if none such can be found, you can offer your own services for the occasion.

Suppose the people connected with the case are persons of sense and discretion, I am very sure they will refer the matter to your judgment, and you will make the proper exploration yourself.

Instead of finding the os uteri, you will discover a cul-de-sac, just

within the os magnum; and probably it will present an exterior convexity, with fluctuation behind it. You place your hand on the hypogaster while she lies on the back, and you discover with the palm or fingers, the hemispherical fundus of the womb jutting quite above the plane of the superior strait. If you press it downwards, the convex bottom of the cul-de-sac becomes more protuberant, and you cause a fluid to fluctuate betwixt the fingers of the right and left hands.

Still unsatisfied in your opinion, you press an index finger into the rectum, and then find the pelvis filled, or nearly filled with a vagina and uterus evidently turgid with fluid, contained within their walls.

Now you have a clear ground to speak. The case is one of imperforate hymen; a case of atresia vaginæ. The remedy consists in destroying the obturating membrane, and that is to be done by thrusting a trocar through it, while a finger in the rectum gives you a clear notion of the direction to be given to the trocar, the bladder having been first evacuated by means of a catheter, in order to make sure of that organ being quite out of harm's way when the trocar is pushed through the membrane; the rectum should be also emptied by means of an aperient enema, so as to leave not the least reason to dread any injury to parts not intended to be wounded by the trocar. If I were about to perform such an operation, and the patient should say: "I have just now made water freely," I could not feel justified to plunge the trocar into the sac upon such a representation. I should never deem any one a prudent surgeon, who should do so until the catheter had proved the matter beyond doubt.

Do not expect to find the membrane no thicker than the page you are reading. It is very thick and strong. I have seen one not far short of a quarter-inch in thickness. When your trocar is withdrawn and the detained menstrual fluid evacuated, pass a narrow straight bistoury, with a probe point, through the opened membrane, and cut it into four triangular flaps; carrying the incision nearly down to the level of the vaginal walls; and once in two or three days, press through the opening thus made, a silver gilt bougie of proper size, so that when the cut edges are healed, they may not leave a constriction of the vagina, to expose the patient to danger of laceration, should she ever be placed in circumstances of labor.

You may be consulted for a case like this. A married lady, married five years, in beautiful bloom of health, suffered periodical attacks of pain coinciding with her menstruations.

The menstrua flowed very slowly, and with difficulty and pain; the discharges were black, viscous, and stinking. They continued many days, but when they were over she was well again. I cannot say that

her health in any essential degree had suffered from this state of things, for she was strong and exhibited a very perfect *embonpoint.*

Accompanied by her husband, she came to Philadelphia and placed herself under my care.

She assured me that, though she menstruated, she was many days going through with the elimination, and that all the menstrual blood that escaped, was very dark, often granular, and always quite offensive.

In a strong light, the patient lying on the back, I found a shallow cul-de-sac, the bottom of which was the hymen, in which I in vain sought to find any opening. There was not even a pore to be discerned, nor could a probe, that I pressed against every point of the hymen, detect the smallest opening in the surface. I was obliged to desist from further researches, advising her that at the next menstrual period, near at hand, I should probably be enabled to detect the orifice from which the flow might escape, and asking to be informed as soon as the appearance should present itself.

After a few days, I was invited to attend; and upon placing the parts in a good light, and pressing against the bottom of the cul-de-sac a speculum with a large opening, so as to put the membrane strongly on the stretch, I again was for a long time baffled, for I could not observe any signs of the menstrua, though she repeated she was unwell, and in her usual manner.

I felt the whole superficies again with a probe; at length, I observed a small dark *point*, and supposed it might be caused by the menstrual fluid passing forth. I pushed the probe against it, but it would not admit it. I next took a very fine one, fit for the puncta lachrymalia, and it passed quite through the hymen into the vagina, and when I withdrew it, there followed a drop of blood of the menstrua.

Finding now that I had obtained access to the upper cell of the vagina, I forced a larger probe and then a very fine-pointed bougie, and so a larger one until I dilated the pore sufficiently to pass up a narrow probe-pointed straight bistoury, with which I cut the membrane into flaps, and then passed two fingers to the os uteri. She discharged a good quantity of menstrual fluid.

The subsequent treatment consisted in the daily introduction, by her hand, of a metallic short bougie, until the passage was rendered complete.

I suppose that the hymen in this case was one-quarter inch in thickness, firm, and fleshy; and yet you see, the lady had menstruated all her life through a pore, not larger than the punctum lachrymale; nay, not so large.

I used all this care, because I found the resistance so great. In a

complete case of imperforation, with accumulation of menstrua above, the membrane would have been convex and fluctuating, and I should have opened it at once with a trocar or bistoury; but here I thought it more prudent to explore the part as I did, before I should venture to cut upon it.

Since I wrote this letter, I have heard that the lady above referred to conceived, and gave birth to a child at term.

I have nothing further to say as to vaginal atresia, caused by imperforate hymen. The books are full of such cases, which present very little of interest, save that arising from the necessity of being careful in the diagnosis. There is no difficulty in the treatment, either by the trocar or bistoury, or the point of the finger, where the membrane is thin.

There are great numbers of cases of this affection published in the books. Of these, Dr. Davis has made a collection, and printed the references in his first vol. pp. 108–9: the whole matter is so simple and so easily understood, and readily treated, that I shall not cite them for you, but merely refer to the pages of his Obstetric Medicine in which they are found.

You are aware that the vagina may become occluded after labor, by the cohesion of its surfaces. This is a consequence of inflammation, and probably of traumatic or wound-formed inflammation.

The accident takes place in some persons through very violent and distressing attacks of inflammation, which may or may not be attended with sloughing. Or, on the other hand, a woman who has given birth to her child without any extraordinary delay or difficulty, shall suppose all to be well with her, until the month of purification being over, she discovers, upon returning to her husband's bed, that an obturation exists rendering her imperforate.

Again, a woman shall be attacked with ulceration of the lip of the os uteri; which being neglected, invades the whole vaginal cervix of the womb, and descending upon the walls of the vagina, may become an ulcer nearly as large as the palm of the hand. I have seen one which, examined by means of a speculum uteri, exhibited such dimensions. This is not a malignant ulcer; but it is very difficult to cure; for when you have reduced it to be not larger than the face of a shilling, it shall, perhaps, in the course of two days, recover its ancient dimensions. In this ulcer, I have picked off from the surface large patches of what appeared to be thickened epithelium or exudation membrane. Some of the patches that were brought away by a dressing forceps were as large as half a dollar. Now an ulcer of this kind will hardly ever be found to heal permanently until it has contracted the

tube to an exceedingly small diameter, and then, when the canal is almost obliterated it heals, or, what cures it as completely, the surfaces cohere, which puts an end to the ulceration. The cohesion is easily overcome.

A young woman gave birth to a large child, and got well without any trouble, or supposing that anything was wrong with regard to the genitalia. After the month was out, it was discovered that she was affected with total atresia, or vaginal imperforation, and this without having had the least reason to suppose that anything was wrong with her. Of course, the obturation must have taken place at a late period in the month, since, had it happened early, the lochia must have accumulated above the coherent points.

When she came to me, I found no aperture whatsoever in the shallow cul-de-sac at the bottom of the sinus pudoris.

It was evident, on inspection, that the orifice of the vagina was puckered or crimped, and quite closed by cohesive inflammation. I in vain endeavored, by abducting the opposite sides of the cul-de-sac, to bring into view any small aperture; nor could I discover any by means of a probe, which was pressed upon all the different parts of the surface. The atresia was complete.

I took a strong probe in my right hand, and stretching the points of union with the thumb and medius finger of the left, I drew the bulb of the probe along the line of the cohesion, and found that it gave way just as happens in the same operation for cohesion of the labia, or prepuce and glans, in children. By means of successive strokes of the probe, upon the line of cohesion, I found that at last, the probe had passed through the obstruction into the upper cell of the vagina. I next dilated the constricted parts with the index finger, then with a cereole, and at last with a metallic bougie, and sent her home, without causing the loss of twenty drops of blood, and with very little pain or inconvenience of any sort, in the cure. I again advise you, that whenever you may be able to restore parts to their natural form and state, without the use of a cutting instrument, you should prefer such method, since it is true, that every wound when healed, leaves the tissue changed, whereas a part cured without a wound recovers its truly normal form and properties.

I attended a lady in her confinement on the 11th of April, 1845. She was subsequently attacked with metro-peritoneal fever, and after great sufferings and risks, was found to be in a convalescent state, save that she had a retroversion of the womb. For this, she was treated with pessaries: in 1846, she was often complaining of debility, and discharges per vaginam of an unhealthy character, for which she would

by no means be prevailed upon to submit to a vaginal examination, on account of her fastidious delicacy. At length, in the autumn of 1846, she submitted to a more particular inquest into her condition.

She was frequently attacked with the most cruel pains in the interior of the pelvis; which, also, extended up as high as the umbilical region, producing there the greatest intolerance of contact, and a dorsal decubitus, with extreme flexion of the lower extremities, the least motion of which augmented the pelvic and abdominal pain to an insufferable degree. The pulse was frequent, and of a hectical character. The stomach was affected with almost incessant nausea, and frequent vomiting of glairy mucus. The bowels were constipated. The patient was much reduced in strength, and emaciated.

The taxis at first gave me great alarm, as the roughness and hardness of the upper portion of the vagina gave me reason to suspect a carcinomatous degeneration of the organ.

I learned, by inspection, with Récamier's speculum, that the os and the vaginal cervix were covered with an ulcer which extended upon the vagina. The surface of this ulceration was overlaid with a thick and unattached pseudo-membranous deposit of lymph, that I could pick off in scales of an inch square with the dressing forceps. It was in all respects like the croup membrane, or other diphtheritic deposits, which you may find in the throat in scarlatina, in ptyalismus, &c. As the speculum was a pretty large one, I could, by passing it to the upper extremity of the vagina, not only examine the ulcer there, but in slowly withdrawing it, I could observe the whole character and extent of the vaginal ulceration.

Now I am sure that the superficial extent of the ulcer could not have been less than six or seven square inches.

I had a great deal of trouble with it. It was soon reduced to a superficial size of one inch; and then broke out again to its original extent, in the course of a few days. I made use of injections of honey of roses, containing fine extract of cicuta suspended in it. I painted the whole surface with a brush dipped in a solution of nitrate of silver. I repeatedly whitened the whole surface with my nitrate of silver pencil. She took corros. chloride of mercury dissolved in compound syrup of sarsaparilla; and afterwards hydriod. of potassa, in the same vehicle.

The ulcer was at last most tractable under delicate contacts of acid nitrate of mercury, followed by dressings made with small plumasseaux of lint imbibed full of a mixture of mel. rosarum and extract of conium, and it finally healed up entirely, leaving the lady free from pain, and in good health and spirits. But it should be observed, that this dread-

ful ulcer did not heal without contracting the walls of the vagina, so that, for the upper third of the tube, the quondam seat of the ulcer, there is now a cylindrical vagina, about the size of this quill with which I am writing. She got well in the summer of 1847.

Please observe, that this contraction of the vagina was an economical process, inasmuch as the smaller it became, the smaller was the surface to be healed; and I doubt much whether it could have healed at all, had the surfaces been kept constantly extended. I was not sorry for the result, since I have, 1st, the consolation to find my patient cured of a dangerous and painful disease; and 2d, to know that, with the bougie and the cereole, I can very readily cause the vagina to receive its pristine amplitude, without risk or pain. I should be the most imprudent of men, were I to attempt the dilatation until a considerable lapse of time shall have allowed every vestige of ulcerative propensity to disappear; since, to dilate the contracted vagina at once, with the cereole or the metallic bougie, would be very apt to awaken the old malady again.

The above statement is unchanged from the first edition of this work. After the cure of the ulcer and the ascertainment of the existence of the stricture, I begged my patient to allow me to desist from any attempts to cure the stricture until several months should have elapsed, for fear of reinstating the ulcerative disposition of the tissues. Unhappily, she became pregnant about the 20th of October, 1847. I was greatly alarmed for her, as I now perceived that I could not consistently with my views of duty, proceed with any methods of dilating the stricture; and I could not but fear that, should she fall into labor at any period after the child should have become viable, there must be a great risk of rupture of the vagina and escape of the child into the peritoneal sac. The pregnancy went on without any serious disaster. On the 8th July she had some abdominal pain, whereupon I examined, and found it difficult to pass the index finger to the os uteri, on account of the firmness and rigidity of the stricture. The cervix was completely deployed. The unfolding of the vaginal cervix had had some influence as a dilater of the stricture; which formerly seemed to me to be an inch and a half in length, but was now very much shortened, and capable, with some degree of force used, to admit the end of the finger to touch the os uteri. Not only was the tubular form of the vaginal cervix wholly gone, but the dimple of the os tincæ permitted me to touch the chorion and child's head.

On Thursday, the 19th July, she had smart labor pains, and the os uteri was as large as a twelve cent piece. She slept little on Thursday night, on account of the pains; and on Friday the 20th, early in the

morning, the labor was quite strong. The pains were attended with a seemingly irrepressible tenesmic force. The stricture being firm and resisting, it happened very fortunately that the membranes were unusually strong; and I was careful to preserve them as long as possible. After much advice, entreaty, and command, I prevailed upon the lady not to bear down upon the pains; and in order to assist her in overcoming the tendency that way, I gave her three drachms of solution of morphia. The bowels were opened by a mucilaginous enema, and she went, in the forenoon, for twenty minutes, into a bath at 95°.

As the day proceeded the dilatation of the os uteri went on, and along with it that of the stricture, though much more slowly. The reluctance of the stricture, of course, greatly retarded the opening of the mouth of the womb. The morphia was repeated in two drachm, and again in drachm doses, and she got a bath again in the afternoon.

The painfulness of the labor was dreadful.

Towards night the bag of waters was inserted into, and at length passed the stricture. At 10 P. M. the bag of waters had descended nearly to the ostium vaginæ; and at 11 P. M. it projected quite beyond the pudenda. A little before 12, the waters of the amnios were discharged; and a few minutes after 12 o'clock at night, the head, which had passed the stricture, escaped from the vulva. The child, a male weighing about seven pounds, was born in good health. The placenta was expelled within eight minutes. On the 21st, Saturday, the pulse was 130, with violent hypogastric abdominal pain, sensitiveness and tympany. On Tuesday, 25th, the milk came and she nursed the child, as also on the 26th. The lochial discharge was free. The urine was removed four times a day with the catheter.—Sept. 14th. I had the pleasure to lead her down stairs by the hand.

The sensation communicated to the finger by the examination of this case was so similar to that produced by the taxis in carcinomatous vagina and cervix, that I think I should have been misled, had I confided for my diagnosis to the sense of touch alone. I beg to advise you to resort to the speculum in all cases where your diagnosis is obscure.

Allow me here to repeat that I do not regard the vagina as a fibrous tissue, but rather as a mere mucous membrane. That is to say, a true corpus mucosum, with papillæ, and epithelial delimitary surface; with mucous follicles, and abundant provision of muciparous glands. Such is the structure; but, this essential structure is surrounded and limited or backed by a condensed cellular sheath or basement containing muscular fibres, arteries, veins, capillaries, nerves, and absorbing vessels.

It seems very reasonable to suppose that such a compound tissue as this, should be the subject and seat of many different maladies arising

from various causes and forms of inflammation, hypertrophy, infiltration, weakness, and utter relaxation.

Like the air-passages, it is liable to aphthous disease, and like them, to the various states of catarrh; like them, also, it may be attacked with diphtheritic inflammation or plastic inflammation; or the whole structure, mucous, vascular, and cellular, may be the seats of the most painful inflammation, proceeding to a height transcending the power of recovery by effusion, by resolution, or by adhesion, and terminating consequently in gangrene and mortification.

You will feel, I am sure, no surprise to learn that labor is often followed by inflammation, not merely mucous; but inflammation deserving to be called a true vaginitis, in which the whole organ is implicated.

It is equally obvious that the vast distension of the tube by the child, must, in certain instances, lay the foundations of vaginitis, in which not the tube only, but the bladder, the urethra, and rectum are, to a certain extent, and sometimes to a dangerous extent, involved.

These post-partum inflammations are scarcely more apt to be formed after long and tedious, than after very rapid labors; and it is reasonable to conclude that, when a child is forced into the world by one or two labor pains, in a labor lasting not beyond five or ten minutes, the dilating tissues must suffer a greater and more unnatural violence, than where the slower and gentler yielding of the textures allows them time to unfold and resolve without rupture or laceration. My own experience certainly leads to the conclusion that a labor of ten minutes is more likely to be followed by vaginitis than one of twenty-four hours.

You ought also to take into consideration the effects of long-continued pressure of the vagina against parts of the pelvis. For example, in a labor where the forehead of the child rests upon the top of the right ischial plane, whilst its vertex is jammed against the middle or lower portion of the left ischial plane, and continues to impinge for hours upon the same points under the throes of a powerful womb, it seems almost miraculous that the compressed tissues of the vagina should not invariably slough after the labor is ended. But the fact is, they not only escape sloughing, but they, in a great majority of such cases, do not even inflame; or, at least, not to such an extent as to excite complaint, or communication of complaint to the accoucheur.

The pressure of forceps, the jam of the exterior curve of crotchets, and sometimes the ploughing up of the textures by the point of a hook, or rupture, are among the causes that excite vaginitis.

Again, vaginitis is often extremely painful when provoked by gonorrhœa. In these instances, the extension of the inflammation behind and below the mucous tissue brings the whole vagina into a state of suf-

fering, just as happens in the gonorrhœa of males, where, from intenseness of the inflammation, the corpus spongiosum urethræ becomes affected, producing painful chordee, which is a true urethritis.

Vaginitis is characterized by sensibility, pain, heat, discharge of mucus, or of sangui-mucous excretions; by thickening of the mucous membrane; narrowing of the canal; by inflammatory exudation on the mucous surface; a sense of weight in the pelvis; micturition, aching in the sacrum and loins, and a tenesmic state. The color of the tube is heightened, and I have observed that the orifices of the mucous crypts are elevated, and surrounded by bright areolæ.

The case should be verified by the use of a small conical speculum of Récamier, the uterine extremity of which should be cut obliquely at about 45°. This speculum, being oiled with olive oil, not lard, should be carried to the cervix, and then, by withdrawing the cone, every superficial inch of the vagina can be examined as the speculum is revolved on its axis, and slowly withdrawn. By this method, gentlemen, you can become perfectly sure of your diagnosis.

In an intense vaginitis, there will be constitutional disturbance; as rigors with febrile reaction, and all the phenomena presented by the constitution under provocation by an inflammation of so important a structure.

Where fever is present, and no circumstances of the general health absolutely forbid it, you ought certainly to commence the treatment by enjoining, first, absolute rest in bed, with the shoulders very low; and second, a free venesection; third, a mercurial or saline purgative dose; fourth, frequent vaginal injection of tepid mucilages; fifth, anodyne enemata of the rectum; and sixth, as soon as the constitutional disorder is somewhat on the decline, to lave the inflamed surface with solution of nitrate of silver.

Ten grains of the salt dissolved in an ounce of water, or twenty grains if occasion be, should be prepared. A large camel-hair brush, such as is called here a throat-brush, dipped in the solution, can be freely applied by the bevelled speculum, rotated as above mentioned, to all the parts on which the contact is desirable.

This is the best plan; but, where your patient is fastidious and foolish, you can perhaps, though not so well, attain the object, by using the salt in solution, injected by means of the glass vaginal-syringe.

In intense inflammation of the vagina, eight or ten American leeches may be applied directly to the surfaces, by using the speculum.

I think there will be found few samples of vaginitis to resist such a treatment, properly administered.

Where the cure, however, lingers, you should repeat the venesection, and make persevering use of the mucilaginous injections of the vagina.

Dover's powder in doses of three to five grains may be given every four or six hours, but not to the exclusion of the anodyne enema at night. At the close of the case, astringents will be called for; and they may consist of weak solutions of Goulard's extract of lead with watery solution of opium, or with extract of cicuta suspended in the fluid of injection.

As to the contacts of nitrate of silver, I am of opinion they ought not to be repeated beyond once in every twenty-four hours, and I prefer the solution as above, to the nitrate pencil; because, though less powerful, they are more manageable, and may be recurred to more frequently than the contacts with the solid salt.

I shall trouble you with no further remarks on vaginitis, except to say, that where your case of inflammation transcends the power of recovery of the tissues, you must expect to find the sloughs coming slowly away, and that you should favor their separation and escape by means of injections of Castile soap and water; by small bits of fine sponge soaked in soap-suds, and held in the speculum forceps, and applied through the speculum, handled most gently. In all such cases, pray beware to hinder the formation of a perfect atresia of the tube, which you can do by daily carrying the index finger, soaked in very warm water and lubricated with Castile soap or with oil, quite up to the os tincæ. In the closing of the ulcers, if any prove perverse, you should aid the cure by thus carefully cleansing them, and then dressing them with honey of roses containing extract of cicuta. For this purpose, soak a long, narrow plumasseau of lint in the solution, introduce it *in sitû* through the speculum, which, being slowly withdrawn, leaves the dressing in contact with the ulcerated surfaces.

The vaginal mucous membrane may become enormously thickened. In this case it protrudes beyond the vulva, and projecting more and more, comes at last to make a tumor as large as a stout man's arm, at the bottom, or most salient extremity of which is found an opening, circular in shape, through which you can thrust your index finger, up to the os uteri, which you will find really situated inside of or above the anterior plane of the perineal strait.

The exterior surface of this great mass is dry if it have been long down; and it is surrounded by horizontal rugæ or rings, like the rings of an annelide. In fact, I have seen in a woman seven months gone with child, the exterior surface assume very much the character of the derm or skin. It went easily up beyond the sinus pudoris by gentle pressure with the fingers, but came down again as soon as the pressure was

removed. A globe pessary two and a quarter inches in diameter would keep it up while the patient was in a horizontal posture. But she found such a posture inconvenient in her circumstances, and preferred the prolapsion of her vaginal mucous membrane to the pessary; so she laid it aside. At length she fell into labor, during which the prolapsed membrane retired spontaneously, and the delivery was easy and safe. This was more than three years ago, since which she has had comparatively but little trouble from her disorder. I met with another similar case in the winter of 1852.

At St. Bartholomew's Hospital, in London, I saw a similar case, in which a tumor nearly as large as the fœtal head at term had resisted many efforts at reduction. I was pleased to see Mr. Lawrence apply his hand to the reduction, which he accomplished after some three minutes of effort. This was in May, 1845. Such reposition, I presume, is always possible. The difficulty lies chiefly in the want of knowledge as to the manner of doing it. But, one leading point in that matter is to push it in the true direction. To thrust it against the pubis, would be to fail; so would it be to thrust it against the perineum. It should be returned, coincidently with the axis of the vagina.

I shall not, in this letter, speak of vaginal leucorrhœa. I purpose to treat of leucorrhœa under the general head of the uterine disorders, though I am aware that the vaginal and uterine discharges are very different from each other.

For the same reason, I shall not here speak of carcinoma of the vagina.

Of vesico-vaginal fistula, I have little to say. It is better that the account of that frightful accident given by M. Colombat should be referred to. In that account you will obtain all the requisite information; and as I have laid it before you in my translation of his invaluable work, I shall hold myself here excused from entering on any discussion of so painful a subject, as well as that of the recto-vaginal fistula, which, though not so distressing as the urinary fistula, is yet a frequent source of disgust, and a constant one of disquiet and unhappiness. Pray read especially the extraordinary case described by Dr. J. Rhea Barton, which I there reprinted. That distinguished surgeon, by an operation altogether new, relieved and perfectly cured a most distressing case. It was originally published in the *American Journal of the Medical Sciences*, for August, 1840. I might have mentioned the case while I was speaking to you on the affections of the labia perhaps, but as it also appertains to the vaginal maladies, I shall refer to it in this connection. You will find it in Colombat, p. 263.

Doubtless the successes obtained by the various methods of treating

vesico-vaginal fistula, described in Colombat's volume, are cheering; but I fear that where a considerable loss of substance has taken place, there is little hope of a cure; and you will find on inquiry that Mad. Boivin and Dr. Dugés are equally despondent as to the cure of any considerable apertures in the bladder itself. I cured a very small one by touching the orifice with nitrate of silver; it was in the upper part of the vagina to the right of the vaginal portion of the cervix uteri.

There is less difficulty when the leak is in the urethra; and particularly do I think so, since I witnessed an admirable operation by Professor Pancoast, about a year ago, for the restoration of the canal of the urethra, which had been opened by a slough, produced by the protracted pressure of the fœtal head, in a lady from a distant State. In this case there was an incessant dribbling of urine from the orifice of the fistula; it ceased not, day nor night.

The urethra, when examined by the touch, was about as large as one's little finger. That part of it which led to the meatus urinarius was contracted par defaut d'extension, and required to be dilated with a bougie.

In order to make the vesical communicate again with the vulvar half of the urethra, Dr. P., with a small sharp-pointed bistoury, made a deep incision in the vesical half, which incision penetrated parallel to the canal of the urethra; and laid the tissue open from the right, quite over to the left angle of the gap. He next pared off the mucous lining of the vulvar surface of the gap, and cutting it into a wedge-like shape, thrust this wedge betwixt the lips of the upper incision, dovetailing, as it were, the lower into the upper one. This pared wedge, being in contact with the fresh surface of the incision or slit, and being maintained there by the skilful application of several stitches, while a catheter kept up the caliber, union was produced, and the lady left the city discharging all the urine again through the true meatus urinarius. I did not think at the time of her leaving Philadelphia for her home that she had perfectly recovered the voluntary power over her bladder—which was owing probably to injury of its sphincter by the labor. She, however, no longer had the constant dribble of urine, and to a certain extent could control it, several ounces often collecting before she was compelled to yield to the urgent call to discharge it. If she failed so to yield, the urine escaped involuntarily.

More than twenty years ago, I was consulted by a lady who complained of what she supposed to be descent of the womb. She had a sensation, not very painful, of distension of the genital fissure and of something pressing itself out from the labia, near the inferior commissure. Upon exploring the case by the taxis, I discovered a roundish

soft tumor which consisted of the posterior wall of the vagina, which was protruding, like a knuckle of intestine in hernia, from the sinus pudoris. I told her it was a protrusion of the vagina and rectum, and that it was distended with gas. I advised that the bowels should be kept in a soluble state, and that great attention should be given to obviate costiveness, and particularly accumulations of feces in the rectum; that the tumor was a vaginal rectocele, and that it would cure itself if she would be careful upon the points suggested. She was so, and has never had any trouble with it since.

I have met with the case in several different individuals, since the one now mentioned.

You can have no difficulty in verifying the diagnosis, if you will condescend to introduce the index finger into the rectum, and bending it forwards, press it into the pouch-like cavity, which constitutes the vaginal tumor, behind which the finger will appear having passed over and above the perineum in a forward direction.

In all cases where you are called upon to make an examination of the rectum, you can, if you please, by pressing the palp of the finger towards the vagina, push it forwards towards and even out through the os magnum, thus producing a temporary vaginal rectocele, which vanishes upon withdrawing the finger. In the old chronic and neglected relaxations of the part, there is formed a true and permanent pouch, which does not wholly disappear, even when the rectum is completely evacuated.

M. Malgaigne, in the *Mémoires de l'Acad. Roy. de Médecine*, 1838, states that he had met with the first sample of the accident eighteen months before, say in 1836, and appears disposed to claim, at page 487, all the credit of having discovered the novelty.

"It may seem strange," says he, "at the present brilliant epoch of surgery, to see quite a new malady take its place on the file of external disorders, and which, though not rarely met with, may be as easily understood by the examination of the practitioner as by the scalpel of the anatomist. I have been enabled to maintain a pretension to its discovery; for among the numbers that usually spring up to contest such claims, there has not been a single claimant for this one. All the classical treatises, all the collections of cases published in France, from the days of Mauriceau down to the period of Madame Boivin and Dr. Dugés, are silent on this subject. The same silence is maintained by Scarpa in Italy; by Richter and Chelius in Germany; and by Sir Astley Cooper and Mr. Samuel Cooper, in England. But after much research, I have discovered some mention of the disorder in those

authors who seem not to have been as explicit in their description as is desirable."

M. Malgaigne then cites a passage of Sabatier, from his memoir on displacements of the womb and vagina, in the third vol. *Mém. Royal Acad. of Surgery*, in which the protrusion of the posterior wall of the vagina is fully attributed to the relaxation induced by habits of costiveness.

Dr. Monteggia, of Italy, says he confounds the accident with procidentia of the vagina, while Dr. Clarke, of London, supposes that the relaxation of the wall of the vagina permits it to fall downwards, drawing the rectum with it.

Now, I wish you to observe that this vaginal rectocele is a true rectocele, that is, a disorder of the rectum, and not a disorder of the vagina; for you cannot but admit that, were the rectum to preserve all its natural strength, no such protrusion could possibly occur, no matter what might be the condition of the vagina itself, since the protrusion must essentially depend upon a state of the tissues of the rectum alone. Indeed, I have on several occasions had the opportunity to observe that, in what is called impacted rectum, there is no vaginal rectocele. In impacted rectum, we find the whole excavation of the pelvis filled with feces, as it is filled with the head or trunk of the child in labor. The child in labor spreads out the vagina equably, towards the bony walls of the excavation of the pelvis; whereas, in impaction, the impacted feces within the rectum in like manner spread out the rectum towards the bony walls of the pelvis, filling it and jamming it full, with many pounds' weight of the residuum of digestions. Now, in these impactions of the rectum, we have no vaginal rectocele; because, though the rectum is enormously distended, it is equably distended; while in the vaginal rectocele, only the anterior wall of the rectum gives way by relaxation, pushing the feeble tube of the vagina before it. Hence, when you wish to cure vaginal rectocele, your indication is to cure the rectum, which being cured, the vagina will also be cured, or rather restored to its natural form. The vagina is not in fault.

The vaginal rectocele is, in general, not a large tumor; it is as large as a walnut, or as large as an egg. I have seen a case in which a tumor resembling a vaginal rectocele, was as large as the fist, but it was merely a vagina-cell, caused by the downward pressure of a peritoneal dropsy that was produced by an enlarged and very firm ovarian tumor. I shall describe it in another page.

I repeat, that to cure it, the state of the rectum is to be chiefly regarded; it is to be prevented from becoming overloaded.

If the patient should be annoyed, however, by an extraordinary re-

laxation of the tissue, one so great as to allow the protrusion from a collection of mere flatus, you may expect all the disorder to disappear upon introducing into the vagina a conveniently proportioned pessary, whether a globular or elytroid one.

While I am on this subject, I beg to call your attention to a case of vaginal enterocele, of which I published a description in the *Examiner*, edited by Prof. Huston of the Jefferson College.

The case occurred September 26, 1844, in a person in West Philadelphia, who was in labor of her fifth child, under care of Dr. Bicknell. She had always had very easy, rapid labors. I arrived at two o'clock, P. M. She was attacked at twelve o'clock, the night before; and was now fourteen hours in labor. I found her in violent labor pains, and she also complained of intense pain and soreness at a point in the right iliac fossa.

I could not reach the child's head without keeping my finger close to the symphysis pubis, for my finger was pushed in that direction by an immense vaginal enterocele; consisting of a great mass of intestinal convolutions, which, falling down below the brim of the pelvis, so completely filled up the excavation, pushing the back wall of the vagina towards the bladder, that the child's head could not possibly engage in the strait. The tumor was soft, though to a certain degree tense. I had scarcely explored it before I recognized its true nature; and waiting, therefore, until a labor pain had ceased, I kneaded it upwards with my fingers, after having first thrust the head upwards a little. It began to move, and following its ascent with my fingers, it fairly flew up into the cavity of the belly; the next labor pain which immediately followed the escape of the prolapsed convolutions upwards, nearly brought the head through the superior strait; the succeeding one pushed it into the excavation; after which, two other pains completely expelled the child, which was a large one, and in good health. Now, here is a case in which the posterior wall of the vagina was thrust over towards the pubis, by a double handful of intestine, nearly strangulated by the superincumbent pressure of the fœtal head in labor; as soon as the pressure of the convolutions was taken away, the vagina was no longer disordered or displaced, and the same, I imagine, will be the case in the vaginal enterocele, whenever you shall obviate or prevent the pressure of the rectum forwards.

It is not to be denied that the posterior wall of the vagina, or rather its mucous coat, may be the subject of engorgement, infiltration, and ultimately of such a degree of relaxation, as to allow it to prolapse even through the sinus pudoris; but that case is very different from the case

of descent of the whole mucous tissue, which I have described in a former part of this letter. It is not a vaginal rectocele.

You should be careful to observe that, in some desperate cases of retroversion of the womb, the posterior wall of the vagina may be thrust forward even so far by the posterior face of the womb pushing it out into sight, as wholly to escape from the genital fissure. I shall shortly cite a very celebrated case of the kind, that occurred at Lausanne, and was described by Dr. Maior.

Small, solid tumors, depending from an ovarium, or developed within the ligamenta lata, may also cause protrusions in the same direction.

The very antithesis of the vaginal rectocele is the vaginal cystocele, or protrusion of the anterior wall of the vagina, by a pouch-like enlargement of the lower and posterior part of the bladder of urine. You will verify your diagnostic here by introducing your catheter or sound into the bladder, and directing the point downwards into the tumor, wherein the point of the catheter is felt by the finger in taxis.

This is a fault of the bladder, and not of the vagina. This is clear, since the bladder contains the urine, and not the vagina. If the bladder gives way in relaxation, the whole vesico-vaginal septum must yield; but it is a cystic malady, and not a vaginal malady.

The tumor is soft, and disappears upon emptying the bladder, as a general rule; yet you may well suppose that a case may have been so chronic, and so neglected, as to give rise to a permanent pouch, which will not disappear, even when every drop of urine has been withdrawn by the catheter. I saw such an one in August, 1850, and one in January, 1854.

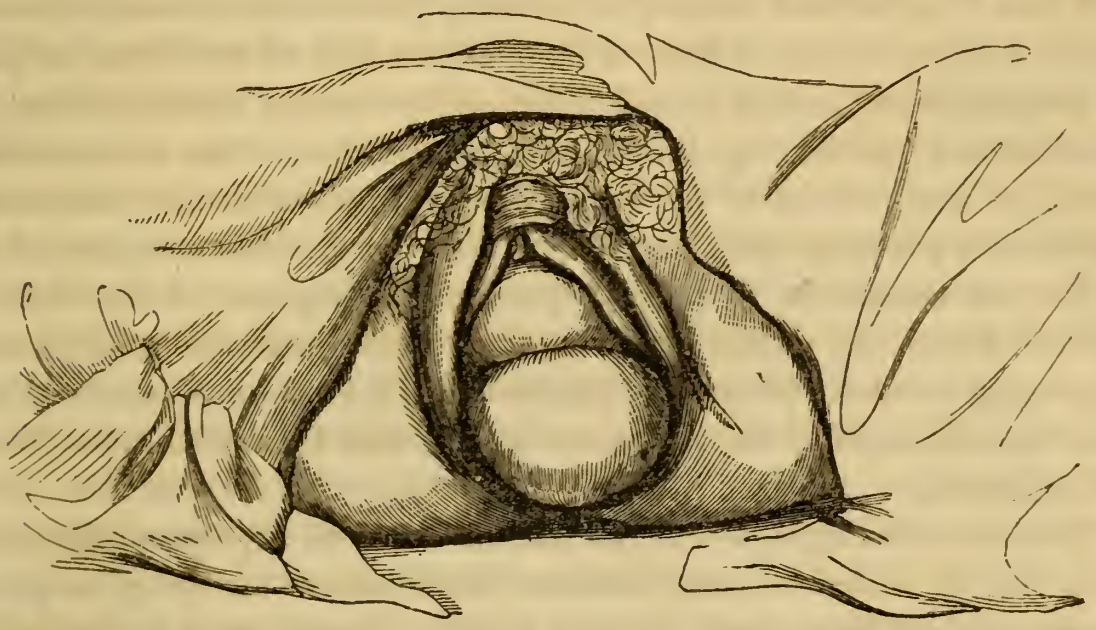
It gives, in general, little pain, and is only annoying by the sense of distension, or that disparting feeling that arises upon the protrusion of the sacculus through the labia pudendorum.

The woman should be directed to discharge the urine frequently; and if incapable of that, to make use of a catheter, which she can readily be taught to introduce with her own hand; a thing far less disagreeable than to submit to the catheterism by the hand of the surgeon.

I have made it a rule in all such cases, to introduce a globe pessary, of suitable diameter, whereupon all complaint has ceased. The tissues, thus supported, recover their tone in the course of a short time, and then the pessary may be withdrawn.

I had a singular case under treatment in October, 1847, at the Pennsylvania Hospital. A woman about 40 æt., the mother of several children, had a solid tumor in the lower belly. This tumor brought on an ascites without any anasarca. The abdominal distension was very great. The

pressure of the water on the perineal fascia had turned the posterior wall of the vagina completely outside of the vulva, causing the appearance of a tumor as large as a very large pippin. The anterior face of the vagina, with the bladder, was also pushed out beneath the pubal arch, making another tumor half as large as the former. The appearances are correctly represented in the annexed cut, which I drew from life.



The lower tumor is the posterior wall of the vagina thrust out beyond the os externum by the dropsy; and the upper tumor consisted of the anterior wall of the vagina, with, probably, a part of the bladder, in like manner ectopied by the watery collection.

In examining the abdomen, the solid tumor within could be touched only with the ends of the fingers, and when touched, seemed to float out of reach of the palps, so that I could not measure its size. The peritoneum was too much distended to allow me to come nearer to it than one point of its superficies at one time. As the tumor was evidently attached by a very long pedicle, I desired to thrust the whole mass of it below the superior strait, and if it could be pushed into the vaginal rectocele, I should have made an incision there to extract it. In order to enable me to make a diagnosis of the size of the tumor, I must get the water out of the peritoneum, or at least enough to enable me to make the requisite exploration. I accordingly pushed an exploring trocar needle into the vagino-cele, and by the operation drew off forty ounces of serum. This lessened the abdominal tension so much, that I could readily ascertain that the floating tumor was too large to be pushed down below the plane of the superior strait; I accordingly gave up all idea of removing it by the gastrotomy operation, which I regard as wholly inexpedient in all these cases. I think that in tissues

so distended and accustomed as those represented in the figure, the risk would be greatly lessened. The woman suffered no inconvenience from the puncture, and left the house much relieved. Let me seize the occasion to say, that the paracentesis with a needle trocar appears to me to be much less hazardous than with the common trocar or lancet.

It is necessary I should inform you, that vaginal cystocele—or at least a tumor temporarily deserving to be so denominated—occurs now and then in labor, and interrupts or totally prevents the accomplishment of the delivery until it is removed. This is a case where, from unequal or non-coördinate action of the fibres of the urinary bladder, those of the bas-fond yielding to the distending pressure of the accumulated urine, the anterior wall of the vagina is thrust by the bladder backwards against the posterior wall, and both of them pushed towards the hollow of the sacrum and the perineum, by the presenting part of the child.

In this case, the child's head cannot enter the excavation, while that excavation is filled with urine contained in the bas-fond of the bladder. It is the antithesis of the vaginal enterocele that I encountered at West Philadelphia.

To make the diagnosis and the cure at one and the same time, you have only to introduce your catheter, well curved, directing its point downwards and backwards, into the tumor. The point of the catheter may be felt by a finger in the vagina, and it will be found that, as the urine escapes, the tumor is resolved and withdrawn, whereupon the child's head can enter the excavation of the pelvis.

I have met with a case of apparent protrusion of the perineum, representing what is by some writers called perineal hernia, and by the Germans Mittelfleischbrucke. In the instance falling under my notice, the lady had been for many years the subject of a diarrhœa, in which the dejections were repeated many times daily, often six or eight times a day. In all this long period, she never had had an evacuation in which the dejected matters were not very diffluent, or even quite liquid.

I pray you to take notice of this statement, and observe that under such circumstances the sphincter ani must have remained for years without a real relaxation; for the aperture of the rectum required for fluid dejecta is very small. It must naturally happen, under such circumstances, that the muscular substance of the sphincter shall become permanently contracted, and that more and more, as the duration of the malady increases.

If in such a patient you should attempt to pass the index finger into the bowel, you would find it difficult to do so, on account of the resistance of the muscle, which by long disease has lost the faculty of sphinc-

torian relaxation. In process of time, this sort of chronic cramp or contraction of the sphincter becomes painful, and at length establishes a tenesmic irritation, which by long continuance is productive of the most intolerable distress.

In my patient, there was so violent a straining at stool, even after the use of an enema daily repeated, that the perineum became hard, and when an effort to bear down was made, it gave to the touch the idea of a solid tumor, or at least of a hernia of the perineum.

The left index in the rectum, and the right in the vagina, or the finger and thumb of the left hand, the former on the perineum and the latter in the vaginal canal, will always enable you to test the truth of the question as to tumor or as to hernia.

I readily discovered, by these modes of inquiry, that my patient's case consisted essentially in non-dilatability of the sphincter, which, coinciding with violent and oft-repeated bearing down efforts, had thrust the anterior wall of the rectum forwards betwixt the upper and lower bands of the sphincter ani muscle, thus making a bulky mass which seemed to be a tumor there. I could push the palp of the left index forwards towards the lower end of the vagina, and even bring it out covered by the tissues of the ostium vagina.

In order to cure the patient, I advised her to provide for the due dilatation of the rectum, by the daily use of a bougie of suitable size. She had a series of them about three and a half inches long, made of silver gilt. By employing the smallest ones, not larger than the finger, first, and so in succession up to the largest one, I doubted not of her being able to remove the complaint in the course of time, but the success has not answered my expectations. I have seen so many instances of supposed uterine and pelvic maladies in women, depending on loss of the power of sphinctorian relaxation, and have so readily cured them by the regular habit of using a full-sized cereole or bougie once a day, that I have no hesitation in recommending the same sort of process for your patients who may be in a similar predicament. In all such cases, you are to take nothing for granted that is stated by the patient, but you are to make the diagnosis for yourself. How, I ask, can you make any mistakes in diagnosis if you will but use your powers of discrimination and judgment? Think what are the anatomical and physiological facts, and what the possible pathological modifications thereupon induced. In this way you will walk in a clear path, under a bright light.

I subjoin the account of three cases of double vagina, which I submit without additional remarks, taking them from the *Medical Examiner* of December, 1846, in which they were first published. The account

serves sufficiently to explain to you the nature of such a conformation of the parts, and the degree of inconvenience likely to attend it.

On the —October, 1846, I was called to Mrs. ———, aged 20 years, in labor of her first child. She is a remarkably well-formed and comely woman.

The pains were sharp and frequent, evidently of the kind called dolores præparantes, or grinding pains. After some time, as they had become more violent, I examined the state of the os uteri, which was of the size of half a dollar, the head of the child presenting, and the ovum unruptured. In the course of an hour more I examined again, and the os uteri was then nearly dilated. While pressing the palp of my index finger to the left side of the pelvis, it caught in a seeming bridle, which at the instant made me fear the cervix uteri had been broken, so as to detach a semicircular portion of the os uteri, for the pains had been exceedingly sharp, and their returns had been announced by violent cries. It was but a moment that I indulged the idea of a rupture of the cervix, for upon pushing the index farther, and flexing the finger, I found I could draw the point of it outwards, pulling along with it the bridle in question. Still, I did not understand the case until, having withdrawn the indicator, I examined with it the structure of the external parts, and then learned that the lady was possessed of a double vagina. Supposing that such a revelation would not be agreeable to her, I kept my own counsel, hoping that the child's head would come down through the right or the left channel without injuring the septum. But after the head escaped from the circle of the os uteri, the bridle or partition would not go definitively to the left or to the right, although I thrust it first one way and then the other. The tie was so strong that the fleshy septum extending from the anterior to the posterior columna of the vagina, would not admit of the dilatation of the lower or outer third of the tube. And as the lady was very strong, and had powerful uterine pains, I began to perceive some danger of the vagina being ruptured by the vain efforts for expulsion.

I now explained to the monthly nurse, and to a relative of my patient, the cause of the delay, and the necessity that had arisen. I therefore procured the requisite permission to expose the parts to an inspection. Upon this, the two orifices of the vagina were seen to be exactly alike, and the partition stretching across the head from front to rear of the passage, which by it was wholly prevented from dilating.

I now with a strong scissors divided the wall by a single stroke of the instrument, whereupon the child's head advanced, dilated the os magnum, and was speedily delivered with safety to both the mother and

her infant. She never complained afterwards, relative to the operation, and within a month I met her on foot in the streets.

A week later, I was called to a lady in her 30th year, in labor of her first child. Upon examining the state of the os uteri, I found the circle not much bigger than a quarter dollar, with thin margin and within it the penis of the child; the scrotum being detected within the os uteri, after the pain ceased. As it was night, I went to another apartment and slept an hour, when being called I found the os uteri very much dilated, and a buttock, near which was the right foot presenting.

While inquiring into the state of the cervix, I hooked my finger into a bridle, just as I had done in the case above mentioned, and I confess, that the same thought was obvious to me viz., that she had broken off a half ring of the circle of the os uteri, but I immediately afterwards discovered that I had another case of double vagina under management. In this case the partition was very firm and thick, extending from the os magnum almost up to the os tincæ. I inspected the external structures, and the two vaginas were each perfect and alike, included within labia pudendorum common to both.

I was glad to find that only one foot of the child would come down, being fearful that if both should descend, I might not readily prevent one from entering the right and the other the left vagina.

I now disengaged the right foot and brought it down the right channel; the left leg was flexed upon the belly and thorax of the fœtus. With a little assistance the foot was delivered, and the buttock of the child coming downwards, thrust the vaginal wall to the left, and so the trunk was delivered. I had great difficulty to extricate the head of the child, which remained long in the vagina; the infant breathing from time to time the air that I admitted through the hollow of my hand and fingers to its mouth and nostrils. The child, a male, was alive, and is in good health; the mother is quite well recovered.

Some years ago I was called by the late venerable Dr. Ruan to consultation upon a case of double vagina in a primipara woman. I delivered the child with the forceps through the right canal, without difficulty or any injury, and had some five weeks later an inspection of the parts, which, as I remember, were very similar to those described in my second case above.

Farewell, gentlemen; I shall adjourn to my next letter some remarks upon the nymphæ. C. D. M.

LETTER X.

LABIA AND NYMPHÆ—COHERENT.

Gentlemen: In my 8th letter, I laid before you some observations upon the accidents that happen to the nymphæ, after having spoken of their physiological nature. In the present communication, I have to offer further remarks upon those tissues.

They are frequently found to cohere in very young children; so as to cover up the small triangular superficies lying in front of the symphysis, and which you studied at the dissection, under the denomination of Vestibulum. This triangular space, you remember, is bounded above by the clitoris, on each side by the nymphæ, and below, by the crown of the pubic arch; or, in other words, by the upper semi-circumference of the os magnum;—near its lower edge is the meatus urinæ.

A young baby is usually clouted, or to use a gentler phrase *diaper'd*. In case its mamma is not scrupulously nice, the diaper is often left too long unchanged, and the irritating salts of the urine come at last to irritate and vex, and finally to inflame the mucous surfaces that are too continually bathed with it.

A very gentle inflammatory diathesis being in this way acquired by the mucous tissue, whose opposing surfaces are kept in contact, union or fusion of surfaces is likely to take place; and at length the mother makes the discovery.

When this gentle adhesive inflammation sets in as to the nymphæ, it is also almost sure to be established as to the labia majora; of which, after all, the nymphæ are but folds, or rugæ of the labia. I have many times found the labia coherent without cohesion of the nymphæ. Indeed, the latter are much less likely to become glued than the former, because, when the lower sections of the labia become fused or soldered together, there is nothing to tear them asunder—whereas, at their upper section, there is the repeated issue of a stream of urine, which is of sufficient force to break up a commencing process of the sort; and so it happens that we do not find cohesion of the labia to extend far above the level of the meatus urinarius as a common occurrence.

M. Colombat speaks of a case in which the nymphæ cohered in such a fashion as to cover up the orifice of the meatus and compel the urine

to ascend behind the cohering apron, in order to escape, with difficulty and dribbling, over the genital surfaces. They were separated by an incision, which relieved the child of her dysury.

Dr. Dugés also, in the introduction to a *Pract. Treat. on the Dis. of the Uterus and Appendages*, p. 30, gives you the account of a little girl, whose urine escaped by a narrow orifice near the clitoris. The catheter could not be introduced into the bladder from this orifice, but went into the vagina, because the labia were also coherent. Pray do not, however, believe what M. Dugés asserts in the same place; viz., that cohesion of the nymphæ necessarily accompanies that of the labia externa; I am sure you will find in practice it is not the case, except very rarely.

It is to be readily concluded that, if a child suffering from an occlusion by this cause, of the genital fissure, should by neglect, or from excess of fastidiousness, be suffered to grow up, the fusion of the surfaces might become complete, and thus effectually prevent the fulfilment of her sexual destiny as a parturient creature—for, the longer the union continues, the more complete will it become, and the more absolute the loss or extinction of the mucous structure whose opposing faces first came into soldering contact.

Whenever the fault is discovered—say up to the sixth or eighth year, and I have known it not to be detected earlier than the tenth year—the mucous membranes are not lost, but only coherent, and they may be pulled apart, leaving the newly uncovered superficies true mucous superficies and not fleshy ones.

The same sort of cohesion I have observed in the glans and preputium of a little boy.

In all the cases that have fallen under my care, I have adopted the following method of cure.

The child is held down on its back, on the nurse's lap; who abducts the left knee with her left hand, while I abduct the right one with my right arm. Then, separating and stretching asunder as far as I can the labia with my left thumb on the right labium, and my index finger upon the left one, I draw the bulb of a common probe dipped in oil along the raphe, which it always opens and separates without bleeding; or at least without the loss of five drops of blood. The pressure of the probe appears to me to have the effect of pulling out a sort of villi like a cylindrical epithelium, which had interlocked their floating extremities and become hypertrophied like placentule villi in the uterus of a sheep.

M. Colombat advises, as a measure of precaution, after the division, to touch one of the surfaces, either the right or the left one, with nitrate

of silver; not to touch both of them. His notion is that, by touching one surface only with the nitrate, we institute in that surface a stage or a rate of vital action different from that going on in the one left untouched; and as there is then no parity of vital movement in the two superficies, they will not cohere when they are brought into contact. They will not consent with each other.

I have not adopted his idea in my practice. But the idea is a very philosophical one, or rather a truly physiological one, founded on what is well known to be a fixed law in teratology. You would do well to study that beautiful law as it is laid down by M. Serres, in his remarkable work, *the Anatomie Transcendantale*, a volume which contains the richest stores of fact and reasoning on the nature and operation of the development forces in man. But to return to my subject:—

When I have completely destroyed the cohesion, I dip the minimus finger in oil, and draw it downwards to the fourchette, effectually separating the labia; and I then explain to the nurse the necessity of repeating this method once a week at least; as the mere separation of the cohering surfaces does not cure the cohesive tendency; which, being in full force, will soon unite the surfaces again, and give other trouble, besides that of *feeing* the surgeon. The last motive is an ægis for the baby: if you do not set it fairly before her, you may soon be called again to make it cry; whereupon I advise you not to forget such a prophylactic charm. The last thing the sick think of is the doctor's fee; tell them of it, and they sometimes take care of their health.

While I was writing to you about the labia, I did not say anything as to their cohesion, because I wished to make my remarks on it in coincidence with those I should have to make on the same accident as to the nymphæ, and now I have nothing more to offer on the subject worthy of your attention.

The nymphæ are occasionally the seats of a very rebellious sort of ulceration. I have found them at times very difficult to cure.

In one example, the nymphæ near their summit or angle were deeply eroded, and the ulcerated surfaces were hard from the induration of the base of ulceration. The young person, about sixteen years of age, was not uncleanly in her person; nor was her health positively bad, as being affected by any sort of constitutional vice, that I could discover.

In this case, I succeeded in effecting a cure by repeated contacts with strong solutions of sulphate of copper; which, next to the nitrate of silver, appears to me to possess a great power to overcome ulcerative tendencies of the mucous membranes. It is reasonably to be suspected, in such cases as are not clearly to be traced to some constitutional depravation, that the local irritation is maintained by vicious propen-

sities to excite the parts by friction. On this head, I would gladly refer you to the monstrous proceedings of a scoundrel under the garb of a physician, in a case related by the late David D. Davis, the able Professor of Midwifery in the London University College: you will find it at page 58, vol. 1, of his magnificent quarto on obstetric medicine. It ought not to be reprinted in this book.

Should you encounter any cases that will not readily yield to contacts of your nitrate pencil or to a sharpened crystal of sulphate of copper, you will scarcely fail to obtain healthy and healing granulations, if you should carefully, very carefully and delicately touch the ulcerated points with a small camel-hair pencil, whose *point* shall have been dipped in some acid nitrate of mercury. This escharotic cuts everything down like a knife; and is not very painful—but it is so powerful that you ought not to let it touch anything but the very points you design to affect. A jet of solution of soda, or salt of tartar, or of lime-water, upon the part after the contact, will neutralize all the excess of the acid that you may have incautiously left, and save the patient from the cauterization of other parts which you desire not to burn. A sponge filled with soap-suds answers the same end by neutralizing the excess of the acid.

An enlargement of the nymphæ to such an extent as to prove troublesome and offensive to the individual herself, might be safely diminished by the excision of a portion of the hypertrophied mass. You will please to observe, however, as the *tablier des Hottentottes* is an ethnographical peculiarity, it does not necessarily follow that an unusual development of the organ must be the occasion of great trouble. The chief annoyance resulting from its great protrusion is likely to be an ulcerative tendency, obtained from the constant friction of it in walking, and against the dress of the female. Such a source of disorder is, however, not likely to prove lasting, since the mucous surfaces, when brought out and kept constantly exposed to the air and to attrition, become covered with a real cuticle, and gradually acquire the properties of the true dermal tissues.

As the nympha is a very vascular structure, it might be expected that the vessels would bleed freely upon an excision; yet no difficulty could arise as to the suppression of hemorrhage from a part which, like this, could be readily compressed, as lying close to the top of the pubal ramus.

Mauriceau gives, in his 174th case, an account of an operation on the nympha as follows:—

"July 25, 1676, I operated for the excision of the nympha, on a woman who begged me to do it for her; because, as she was obliged to

be much on horseback, she was put in pain by the friction of the organs, and also because such an *indécence* was displeasing to herself as well as to her husband."

After cutting off both of the nymphæ with his scissors, Mauriceau remained near her for an hour, in order to observe whether hemorrhage might follow; during all which time she lost only about four ounces. Finding her doing so well he left her, but was much surprised on returning in the evening to find that she had had repeated faintings; and that she had lost between forty and fifty ounces of blood in the course of only five or six hours.

Mauriceau says she soon recovered, and was subsequently confined under his care. The labor was with a shoulder presentation, for which he turned. No inconvenience attended it, as relative to the absence of the nymphæ, which, says he, "n'étoit utile que *pour la décoration*." What a curious old Frenchman!

In my next letter, I propose to speak with you of the organ called clitoris, as the subject of disease, and am very truly your friend and servant. C. D. M.

LETTER XI.

THE CLITORIS.

Gentlemen: Blumenbach, in his *Comparative Anatomy*, says that "the clitoris is found more invariably than any other item of the external genitals in the mammalia, that it exists even in the whole of them, and is probably wanting in no other instance than in the ornithorincus."

Kraus has a long article on its derivation from the Greek κλειτορις, from κλειω, *claudo*, I close or shut.

It is a body lying upon the symphysis pubis, composed of two corpora cavernosa, similar to those of the male, and provided with corpus spongiosum, but not one forming a canal of the urethra. As it has a corpus spongiosum, it of course possesses a glans. It has, also, a præputium, consisting of a preputial fold of the angle formed by the junction of the two nymphæ at their upper commissure; so that, in fact, the clitoris is an organ that juts its point forth beneath the superior angle of the nymphæ, and thus gets a hood, covering, or prepuce from them.

There is a considerable mass of vessels gathered into a bunch, one on each side of the entrance to the vagina, which compose what are called

the bulbs of the vestibule. These vessels lie beneath the constrictor muscle, and send their blood by numerous branches upwards to the clitoris, and particularly into the extremity of it, when they are so numerous as to compose an organ which is the analogue of, if not a real glans clitoridis, like the male glans.

Being embraced above by the fold of the nymphæ, it is clear that when the nymphæ are drawn by any cause downwards, the point of the clitoris is depressed, and thus more readily brought to touch any such body.

It is endowed with the most intense erotic sensibility, and is probably the prime seat of that peculiar life power, although not the sole one. Burdach, *Physiologie*, vol. i. 224, says that the clitoris is in "some sort the organ of touch for the genital apparatus."

The erotic sensibility does not abandon it wholly when old age or the change of life has converted the ovarian stroma into a non-germiferous texture; nor even where the ovaria are totally extirpated, either in women or domestic animals. It is true that the aphrodisiac nature attends upon the ovaria, as its prime source and sustainer, and is most perfect when they are in their highest state of health and power; yet there is an unknown connection and relation of this power as resident in the ovaria, to the means of exciting it as resident in the *tentigo*, *myrtis*, or *clitoris*, and its congenerous tissues.

The anatomical constitution of the clitoris shows it to be the analogue in the female, of the male parts; and it might well be referred to as justifying the idea, that, in a certain stage of embryonal existence, the future sex of the forming being is not ascertained; as it certainly is not ascertainable by any inspection.

Should you reflect for a moment on the nature of the corpus cavernosum, and find it here; on that of the corpus spongiosum, and find it also at the outer extremity of the clitoris; on the prostata, shaped like a Spanish chestnut, which, according to De Graaf, you find again on the outside of the urethra, which, like the male urethra, runs through the prostate gland; can you not believe that the uterus is itself a transmuted prostate, or the prostate an atrophied womb, and thus discover the analogies that are so strong betwixt the various portions of the reproductive organisms of both the sexes? Should you carry the comparison further, would not you find Cowper's glands in the glands of Duverney—the bulb of the urethra in the bulbs of the female vestibule, and the spermatic cord in the tube of Fallopius, and the seminal glands in the ovaria, of which the Fallopian tubes are in fact the efferent ducts? Lesser transformations than these take place in many of the organs during the embryonal life; in proof of which I recall to your

memory my remarks in the lecture-room on the morphological changes that take place in the development of the fœtal heart.

Like all the organical forms, that of the clitoris is liable to betray the generic law which should produce only the small pimple-like body that we discover in the well and naturally formed pudenda. It may become enormously large, so as to equal in size the congenerous organ of the male. A specimen of this kind is usually the subject of much stupid wonderment; and it is soon noised abroad, as a sample of that impossible thing in any high zoological grade, a hermaphrodite.

The mistake is the more sure to be made, if peradventure the labia participate in the faulty excess of development force, and come to bear, as they do, a strong resemblance to the male scrotum; in which case, Martial's epigram on the *Tribad Bassa* seems applicable.

"Mentiturque virum prodigiosa Venus."

There is a very curious and most interesting work, by Parent du Chatelet, entitled *De la Prostitution dans la ville de Paris*, a work written in a truly laudable and missionary spirit. M. P. du C. devoted immense labor of research among the thousands of Parisian females abandoned to that wretched life, with a view to ascertain the measures best calculated to promote not only their own reform, but the advantage of public morals. In his researches, he addressed himself to every practicable source of information. He says, at p. 121:—

"According to Mess. Jacquemin and Collineau, and the physicians of the Dispensary, there is in the public women of Paris nothing remarkable as to the appearance and dimensions of the clitoris. There are found among them, as among all married women, certain varieties as to this part; but nothing remarkable.

"As these women are regularly examined, agreeably to a rigorous police ordinance, at stated intervals, their condition is well known; and yet, out of the thousands who are kept under such constant surveillance, there were only three in whom the organ was possessed of a notable excess of size. In one of these three, the clitoris was three inches long, and of the size of the indicator finger.

"It was probable, not certain, that this girl had no uterus, as none could be ascertained to exist. She declared herself to be equally indifferent as to males and females; and that she had abandoned herself to such a course of life, not from an excess of libidinous propensity, but solely as a means of escaping from the pangs of hunger."

Parent du Chatelet does not believe that the other two women were specially urged by libidinous desire to enter on their abandoned course. He declares that all three of them were utterly free from any signs of

beard, which he looks upon as a trenchant characteristic of the male. The one particularly specified above, had no appearance of mammary development.

M. Louyer Villermay, author of the article Nymphomanie, in *Dict. des Sci. Méd.* (*sub voce*), relates a case from the *Ephem. Natur. Curios.*, in which the organ in question was equal in size to that of the male. The salacity of the individual had been extreme from an infantile age. She died in childbed, non dum satiata, like the Empress Messalina, or Cleopatra. The metro-maniac was the dominant force throughout her life. I refer you, also, to a case published by Dr. John Neal, of Philadelphia. This case is illustrated by an admirable drawing, which will give you a clear idea of the appearances exhibited in the miscalled specimens of Hermaphrodism. It was printed in the year ——

I presume it is not requisite that I should take the trouble to point out cases of supposed hermaphrodism, in order to convince you that the conjunction of the two sexual natures in any highly organized animal is a zoological impossibility; wherever nature makes the attempt, she fails; producing a horrible confusion of organs, from which no effective function can possibly proceed.

Mr. John Hunter's celebrated *Observations on Certain Parts of the Animal Economy* contains a paper on the Free-Martin, from which you may learn that "when a cow brings forth twins, one a bullock, and the other to appearance a cow, the cow-calf is unfit for propagation, but the bull-calf grows up into a very proper bull. Such a cow is called in this country (England) a Free-Martin, and is commonly as well known among farmers as either a cow or a bull."

The Free-Martin offers no attractions to the male, who never takes the least notice of her. The Free-Martin never breeds, has the bellow of the ox, and as a stall-fed animal resembles the ox or spayed heifer; being readily fattened, and possessing a tender and fine-grained flesh.

Mr. Hunter having procured one of these animals, found the external genitalia in all respects feminine, perfectly formed. But the vagina terminated in a cul-de-sac, a little above the urethra, from whence the vagina and uterus were impervious. The remotest extremity of the uterus terminated in two horns; at the termination of these horns (the Fallopian tubes), were placed the testicles, instead of ovaries. In another specimen, he found both the ovaria and the testes at the ends of the cornua of the womb.

You might, perhaps, feel inclined to object to me that, if both testes and ovaria were found here, the animal was truly hermaphrodite. It is a dangerous thing to doubt John Hunter's observation; and it is a sort of impertinence I should scarcely venture upon. But, in the present

instance, I think, if you will look at his paper, you must agree with me that Mr. Hunter's observation is incomplete, and that he is himself obliged to argue the point in favor of his inference. At all events, I see nothing in the paper to shake my firm reliance on the inevitable tendency of generic force; and hence, I can place no reliance on human, nor any other mammiferous hermaphrodism. The idea is a poem in itself; but the prayer of Salmacis, that her lover's person and her own might be resolved and combined into a single body, and which is the highest expression of the sentiment of love, is a prayer to be granted only by the fantastical and freak-loving gods of the mythological hierarchy: the Ruler of the world, whose laws are what we call Nature, never departs from that steady course of his in which there is no variableness, neither any shadow of turning.

But let us consider what are the maladies likely to obtrude themselves upon our attention, as affecting the part under consideration. They are ulceration, hypertrophy, and engorgement, and excessive augmentation of the libidinous desire.

I deem it not necessary to offer any special remarks upon the management of its ulcerations, which should be treated upon the same plan as similar ulcerations of the nymphæ, which are always likely to accompany it.

The hypertrophy is most likely to be congenite. If it take place during a maturer period, the organ can be readily excised; probably the only remedy, but one not called for, except when great inconveniences attend it.

Dr. Merriman describes one that was amputated in Dublin. It equalled, in size, a child's head two years old. There is in St. Bartholomew's Hospital a specimen preserved in the Museum, constituting a mass of two inches in diameter, composed of a firm, pale, obscurely fibrous substance, traversed by glistening bands. The interior contains a number of cavities or cysts, filled with groups of small bodies attached by pedicles to their walls. For the above, I am indebted to an interesting volume published in 1847, under the title *On Tumors of the Uterus and its Appendages*, by Thomas Safford Lee, M. R. C. S. E., &c., 8vo., London, pp. 222. I hope to present you some further citations of this very excellent writer's passages in the course of these letters.

I pray you to advert to the very curious case of disease of the clitoris, which I published in Colombat's work, and about which I spoke to you at some length last winter. In that instance, the tumor was a globular body appended to the superior part of the genital fissure, and consisted of a clitoris, which in a gradual progress of morphological transformation continued during fifteen consecutive years, had become equal to

the cubic content of twenty-two ounces of fluid blood, which was accumulated within it. I have often had my feelings of surprise renewed, upon reflecting on the possible conservation, during so long a period, of a material like that in question; and I am confident that it must have participated in the nature of those singular accumulations that take place in persons with imperforate hymen, and that no organic concrete save a reproductive one could have preserved it so long unchanged. But as I have no intention to describe the case and its treatment for the second time; in this volume, I shall merely beg you to refer to my account of it, and to the print, which gives a correct idea of its appearance.

Probably, the most serious malady that can affect the clitoris, is that morbid sensibility of it which it provokes to constant attention to the erotic sense. This is a malady dangerous not to the health only, but to the morals of the sufferer; for the physical sense is, in some instances, able to overpower the moral sense, which it carries captive in its mad and brutal passion for indulgence. I think that nothing can be found more revolting than the spectacle of a female under the full influence of a Nymphomania.

I have met with a few samples of this terrible malady in the course of my long experience, and I am thankful to be able to say, but few; and those, not of the greatest intensity. In one of the cases, which occurred in a thin brunette, aged only nine years, I learned to my astonishment, that for months she had been in the almost constant habit of irritating the erotomaniac sense by various methods of provoking its exaltation, while at school, on the form, or standing up in class, at church, at table, in the dining parlor, and more than all upon retiring to bed; so that it appeared, she was very rarely without the sexual sense in a highly exalted state. Her health had become feeble, and, from the most ingenuous and gentle of children, she had grown cunning, deceitful, and wicked in disposition.

I made vain efforts, through moral treatment, to awaken the compunctions of conscience, and to set in array the dictates of common sense, and the love of life and health. The affair became so threatening that it was necessary to examine the parts, which were natural in appearance; I found nothing peculiar as to the sinus pudoris; no change in the appearance of the nymphæ or clitoris.

I put the case under a severe course of purgative medicines, that were repeated for a long time, and rendered her thin and weak. I gave purgatives to the child in order to reduce her strength by diminishing the crasis of the blood, hoping that such a cooling operation might be followed by some diminution of the erotic excitement.

I also directed ten grains of nitrate of silver, dissolved in one ounce of water, to be procured. The solution was freely applied to the nymphæ and clitoris for several successive days. The child declared she had abandoned her habit, grew fatter and stronger; but at length confessed she had always continued in secret to excite her sexual sense.

She was finally sent to the country, when her health became strong, and I have reason to believe that she lost her frightful propensity upon the recovery of her health. What, indeed, is ever likely to render all the innervations natural and healthful, if a firm and solid health of all the other organs fail to conduct back to a normal state an organ or tissue that has become disordered. Health, like mercy, is twice blessed, since it not only gives to the organs, which is blessing, but receives from them, which is blessing also. I am not, therefore, surprised, when I learn that a case so distressing, recovered under the invigorating influence of fine air and exercise, which, by restoring the harmonious concurrence of the other innervations, compelled those of the aphrodisiac tissues to come under the same law of harmony. It is probable that, by reducing her strength by the course of purgative medicines, I did harm rather than good to my patient. And yet it is possible that, by so reducing her before sending her to the country, she was enabled more speedily to recover under the more extensive assimilations that were required to bring her up again to her former weight.

There should be in your therapeutical and hygienical views, as to the disorder under consideration, I think, a constant intention to build up, as early as possible, the shattered edifice of the nervous system by good air and a nourishing, but simple and not stimulating diet; by exercise, carried to the extent of turning off every excess of nerve power in the direction and activation of the muscular system; by an almost constant presence; by new, innocent, and attractive trains of occupation and thought; and the employment of the ferruginous tonics and vegetable bitters; the shower-bath; cold hip-bath; sleeping under thin coverings, and doubtless, above all, the administration in the evening of a full dose of opium by enema. I confess, I have had but little experience in the treatment of such maladies, and as those which I have encountered have gradually terminated by a restoration of the health, without other inconvenience than the suffering, the mortification, and the alarm of friends, I am inclined to hope that, with great prudence and circumspection on your part, you will always find in the resources of your education, those principles of medical prescription that may enable you to conduct your cases to a favorable end. As I, like you, have been officially admitted to the rights *exercendi*, *docendi*, *et scribendi*, *quocunque rite vocatus fuerim*, I am admonished by the condi-

tion *rite*, not to cite in these letters any of the numerous shocking cases that are perhaps too fully and unnecessarily set forth and detailed in the authors.

The orifice of the urethra, though not a sexual part in strictness, yet it is to be so regarded in the female. It is, not rarely, the seat of diseases demanding your counsel, or your surgical ministry.

Dr. John Green Crosse, of Norwich, England, whose works are well known and highly appreciated, sent me a small pamphlet lately, containing an account by him of a case of inversion of the urinary bladder, which came forth at the orifice of the urethra, and made there a "tumor about the size and shape of a walnut, projecting visibly, at the external labia pudendorum. It was of a blood-red color, and somewhat granulated upon its external surface, so as to resemble a large strawberry; and the surgeon entertained a notion that it was a vascular tumor, which might be removed by ligature, on which account he requested me to inspect it."

Now, gentlemen, you will please observe that this tumor existed in a girl between two and three years of age; and that the highly respectable physician, a colleague of Mr. Crosse, mistook it for a vascular tumor, that ought to be cured by extirpating it with a ligature. If he had put on the ligature himself, without consulting Mr. C., he would have cut off the child's bladder of urine!! See, then, how dangerous it is in physic, to jump at a conclusion; and beware of the advice so often reiterated in the lecture-room, never to give an opinion, until you have an opinion to give, nor to enter upon an action until you have learned where it may end. Even after Mr. Crosse's first examination, the girl was in the greatest danger of losing her bladder; for just as the surgeon was about to put on the ligature, Mr. C. discovered both of the urethral orifices, and he then pressed the tumor back into the vulva, and continuing to push it, it retired upwards, along an opening into which, after the tumor had gone up, he could and did actually introduce his little finger, and carry it quite up inside of the bladder; so largely was the urethra of the child dilated by the long-continued distending pressure of the inverted bladder on its walls.

If the ligature had been put on, the child must have died.

Mr. Crosse could never learn how long the inversion had lasted; he could only ascertain that it had lasted for a "considerable time."

There was no relapse of the inversion, so far as he had learned.

Dr. Murphy saw a similar case at Dublin, which was cured by reposition.

You will also meet with cases in which the mucous membrane of the urethra becomes hypertrophied and inflamed, producing a fiery-red

tumor at the orifice of the urinary canal. This is attended with much burning pain, and obstruction to the flow of the water. It may be cut off by passing a silver canula into the bladder, and excising all the out-hanging mucous tissue, by a bistoury; cutting on to the silver tube by a process like the first incision in amputation. Or, where the patient is afraid of the knife, it may be readily cut off by half a drop of acid nitrate of mercury, on a camel-hair pencil, which destroys at contact. Nitrate of silver does not, according to my experience, succeed well in the case of this troublesome disorder. I warmly recommend that you treat all such cases by very cautious contacts of acid nitrate of mercury. Under these cauterizations, it heals with marvellous rapidity. Some patients have consulted me on account of pain in the urethra which produced the most distressing micturition. I have found the urethra in certain of them to be excessively red, and covered with fine granulations, which seemed to me to be merely results of a chronic diphtheritis. The use of Lallemand's port-caustic, charged with a small dose of fused nitrate of silver, appears to me capable of curing this diphtheritis as readily as that more ordinary form of it which is observed in the pharynx.

I will not close this letter without cautioning you not to shut your eyes upon many samples you must be destined to meet with, of incomprehensible maladies; maladies, however, that might become perfectly intelligible to us, if we would study them in the light lent to us by investigation into the nature, extent, and great force of that aphrodisiac or reproductive instinct, which, however disastrous and shameful its excesses, must be admitted to control, to a certain extent, a very considerable part of the motives and actions of men, and without the incitations of which, the entire scene of living nature would soon be blotted out, leaving the earth a howling and desolate waste.

Very sincerely yours,

C. D. M.

LETTER XII.

DISPLACEMENTS OF THE WOMB.

Gentlemen: The uterus, as you well know, is situated between the bladder and the rectum, resting on the upper end of the tube of the vagina; attached in front to the bas-fond of the bladder; held in situ by two ligamenta rotunda in front, which prevent it from turning over

backwards in the direction towards the promontorium of the sacrum; prevented from librating to the right or left, by the left and right ligamenta lata; and, lastly, restrained from any falling or prolapsion by the two ligamenta utero-sacralia, which tie the upper end of the vagina to the lower part of the sacrum.

The non-gravid womb weighs about two and a half ounces, less or more, according to the individual. It is two or two and a half inches long, about one and three-quarters wide at the top, and terminates below in the os, which is an opening of the lower extremity of the vaginal cervix, or surgical cervix, as it is sometimes called.

The womb is divided into the fundus, corpus, and cervix. All that part of the neck that is below the point at which the vagina is attached is the surgical cervix or vaginal cervix, because it is within the reach of the surgeon, or because it is inclosed within the upper end of the canal of the vagina. The womb rests upon the upper end of the vagina, and cannot move from its place upwards or downwards without carrying the upper end of the vagina along with it; so that all displacements of the womb may well be said to interest the vagina also; as long as the vagina keeps its due length, the womb must remain in its due place.

One would think it an easy matter, now, to understand that, if the vagina preserves its natural length, and if the round ligaments are neither too short nor too long, while the broad ligaments are also in a healthful state of tension, there can be no displacement of the womb; for the womb cannot settle downwards in the pelvis, unless the vagina also settles down, by growing shorter; nor can it be turned over backwards, while the round ligaments are only two and a half or three inches in length. Nor can it librate, and become oblique to the right, while the left broad ligament prevents it, nor to the left, if the right broad ligament be not relaxed and elongated. This is clear; and if it be clear, then it seems to me hardly worth while to give you any further trouble in the way of indoctrinating you as to the deviations of the womb; yet I have some plain remarks to make, that may possibly assist you in obtaining such clear notions, as to put it out of the question for you to be embarrassed in the treatment of these cases.

Prolapsion of the womb, commonly in the world spoken of as falling of the womb, and bearing down of the womb, is so frequent an occurrence in married women who bear children, and is attended with so much distress and vexation for many of them, that I am sure no man can long practice physic without being appealed to for counsel and relief from this form of disease. But, with just views of the pathology and semeiology of the case, there are few samples of it that may not

be made to yield to a judicious treatment, based on correct views of the state of the affection.

Let us speak, first, of prolapsus uteri, or falling of the womb.

By this is understood a case in which the os tincæ approaches too near the orifice of the vagina; and the degree of the prolapsion might, perhaps, in strictness, be measured by the distance between the orificium vaginæ and the orificium uteri. I say, in strictness; yet I wish you to understand, that the amount of pain, distress, or inconvenience, is by no means proportioned to such a degree; because you shall find that a woman, with but a slight descent, shall suffer vastly more therefrom than another woman, whose womb has fallen twice as low down in the pelvis. Indeed, there are women who always find the mouth of the womb to peer out at the genital fissure when they are on their feet, and yet feel no pain from it; while others are observed to suffer the most vexatious and even intolerable pain, from a very slight depression indeed. The slightest descent of the womb produces, in many women, a most intolerable abdominal neuralgia, which disappears in an instant, in the twinkling of an eye, when the surgeon presses the tip of his index finger beneath the os tincæ and raises the womb upwards a mere quarter of an inch. It is true that when the support is withdrawn the neuralgia is apt to recur; but it is certainly true that, to elevate the organ ever so little, is to take away the pain for the time.

That excellent old author, the Sieur de la Motte, sworn Surgeon and Accoucheur at Vallognes, in Normandy, one who deserves, for his good sense, prudence, and skill, ever to be gratefully remembered by his brethren in all lands and times, makes two divisions of the malady, one of which he calls relaxation, and the other, descent of the womb. It is very curious to see how, by the use of a few quaint expressions, he paints the picture of the case.

"L'on appelle relaxation de la matrice lorsque l'orifice intérieur de ce viscère déscend à l'entrée du vagin, et quelquefois jusques entre les grandes lévres, qui se fait remarquer en y touchant avec le doigt, par un corps d'une consistance moyenne, entre le dur et le mou, qui rétrograde à mésure qu'il le pousse, et qui revient aussitôt qu'on a oté son doigt, et qui se rétire ou reprend sa place d'elle même lorsque la femme se couche sur le dos, et qu'elle a dans sa situation les reins un peu plus bas que le siége."

The *déscente* is where the os uteri comes quite out of the sinus pudoris. You see that La Motte, by the few words above quoted, has given a perfectly graphic picture of our case.

Among other inconveniences connected with falling of the womb, are those depending on the disturbance of the utero-vesical and the vesico-

vaginal septum, for the womb and vagina cannot settle downwards in the pelvis, without dragging down with them the posterior part of the bladder of urine; which, being fretted and vexed with this pulling force, is frequently prompted to contract on its contents—and thus is set up a course of urinary tenesmus. But a urinary tenesmus is itself a disturbing force. Tenemus relates to a pelvic sensation; and when your patient has a continual prompting to make water, she has also a continual forcing or bearing-down feeling, which disturbs the repose and comfortable sensation of all the other pelvic contents. There is a sense of weight, heaviness, or pressure at the perineal strait, which is attended with pain in the hypogastric and sacral plexuses and their branches; so that the poor patient not only has sensation where there ought to be no sensation, but it is absolute distress and pain. As the nerves of the womb, and vagina, and bladder have a very extensive inosculation and plexus with the whole of the splanchnic nerves, and with the great sympathetic and the spinal nerves, you may readily suppose that a displaced womb, may disturb the renal, the hypogastric, and sacral plexuses, just as an aching tooth starts into existence the most frightful trifacial neuralgia; and you will find, on examination and reflection, that hundreds of poor creatures are bled and cupped, hydrargyrized and blistered, and antimoniated, under a false accusation of hepatitis or nephritis, or spinal irritation, who really have committed the small and venial fault only of letting their uterus fall downwards a meagre half inch perhaps. I hereby warn you against false diagnosis; for diagnosis is in practice like Captain Greatheart in Bunyan—encountering and overthrowing all obstacles; so that even Apollyon, who in words less polite was the Devil himself, could by no means oppose a bar to his constant practice of being victorious in all sorts of battles.

You have all learned what is meant by Professor Carus's curve; well—the womb, when in its proper position, coincides as to its long axis with a tangent of the superior third of this curve; and if from any degree of prolapsion it settles downwards, it follows the curved line of the great Saxon teacher in part of its fall; but it cannot follow it all the way down, since the os, in the descent, tends towards the crown of the pubal arch—whereas, the curve is two inches below the crown. When near the top of that curve, the woman being in a standing position, the long axis of the womb looks upwards and forwards, and downwards and backwards. Suppose the womb to fall half-way down to the os magnum, then it would be vertical in the pelvis of a woman standing upon her feet;—if it were to lapse downwards, so as to show its lips jutting through the os magnum, the womb would necessarily lie in a position nearly horizontal; its mouth looking forwards under the crown

of the pubal arch, and its fundus pointing backwards towards the lower third of the sacrum; so that a womb prolapsed lies on its back.

Imagine your patient situated as I have just described; and I think you may readily understand why she has both vesical and rectal tenesmus; pains in the sacral and lumbar regions; pains in the groins from discomfort and traction as to the ligamenta rotunda; some uneasiness in the ligamenta lata; great tension of the ligamenta utero-sacralia, while the recto-vaginal septum is strained, and the fundus of the womb actually rests and is pressed upon the inferior parts of the rectum, irritating it like a mass of scybala lodged within it.

Nerves from the lower end of the spinal cord are distributed on the womb and vagina, and to the bladder and rectum, as you may perceive in good Professor Tiedemann's beautiful drawings of the uterine nerves, and in Robert Lee's *Treatise on Midwifery*, and his *Anatomy of the Nerves of the Uterus;* but they receive a considerable endowment of nerve-filaments detached from the great sympathetic. They also in the same manner are allied to the renal plexuses, the solar plexus, and, in fact, to the whole organic innervative apparatus. What a great disturbing power does this impart to the reproductive organs when sick! what an uncomfortable creature is a woman with a prolapsion! Have we any cause of surprise or wonder to hear her complain of her hypogaster, of her groins, of her thighs, of her loins—of the region of the kidney or liver—or, indeed, need we feel astonished if the whole interior of the belly become affected with the most intense and insupportable neuralgia? or what she so expressively describes as her "*all goneness.*"

I had been long accustomed to regard much of the distress experienced by females with prolapsus, as belonging to the class of neuralgic disorders, and my opinion on this point has been for many years confirmed by the occurrence of singular cases, to which I had not seen any allusion in books, until I met with an account of similar cases in the recently published work of Mr. Maunsell, of Dublin, a work which, although small in size, is replete with sound doctrine, and rich in numerous and important practical details. I have now met with above sixty instances, in which the most cruel neuralgia of the whole belly, with sensibility equal to that of acute peritonitis, proceeded solely from a very slight degree of uterine prolapsion. I say so, for when I could not press the palps of my fingers ever so lightly on the abdomen without giving great pain, I have found that, if I but supported the womb on my index finger, pushing it upwards less than half an inch, the woman could not only allow me to touch the abdomen, but even to touch and press it very violently without complaining. From all this I con-

clude that much of the pain of prolapsus uteri depends on the pulling or stretching of nerve fibrils, caused by the sinking downwards of the organ. The patient feels instantly well, if you push the womb up to its place, or, I should rather say, if you elongate and carry out to its usual dimensions the tube of the vagina: when the vagina is up, the womb cannot be down. These cases I have been, for several years past, in the habit of relating in my lectures, as will be easily recollected by any of my early pupils who may peruse this page. I have also spoken upon this subject before a numerous assemblage at the Philadelphia Medical Society, in the winter of 1833 and 1834. In a subsequent page, Letter on the Breast, I shall show you that many cases of pain and even of inflammation of the mammary tissues are caused by what I beg you to allow me to designate prolapsus of the mamma. I mean by this designation to impress on you the notion of a disorder caused by the traction from gravitation of the substance of the mamma —a traction which renders the nervous substance of the gland and skin painful, and leads even to their acute inflammation. In such circumstances, I am used to suspend or support the breast by means of strips of adhesive plaster, so adjusted as to restore to the breast its hemispherical form, and thus remove the unequal tension of its parts. It is often the promptest cure, and seems, indeed, in most cases, as needful for the treatment of an irritated breast as an ordinary suspensorium is for an orchitis or hernia humoralis. The cases of neuralgia from prolapsion also require support or suspension, and are exemplified by the ensuing statement.

On the fifth day of July, 1828, I was called to see ————————, a mulatto woman, in Water Street, aged about thirty years. She was lying upon her back; the knees were drawn up, and she was supporting the bedclothes with her hands, lest they should press upon the abdomen, which was so exquisitely tender and sore that she could by no means endure their weight or pressure. She had been suffering this pain for many hours, and had a short, quick respiration, on account of the pain which any extensive motion of her diaphragm communicated to the abdomen, and which made it necessary for her to restrain the respiratory movements as much as possible. Upon hearing her account of the symptoms, witnessing her distress, and observing her decubitus, I was at first convinced that she was laboring under intense inflammation of the peritoneal coat of the intestines. The slightest pressure of my hand on the abdomen was resisted with exclamations; for the part was, to the greatest degree, quick and sensitive.

Upon examining the state of the pulse, which I expected to find tense and corded, I was much surprised to discover that it was nearly

natural, as respected its frequency, volume, and hardness. The incongruity of the signs derived from the examination of the abdomen and of the pulse led me to make further inquiries. She had borne several children, of which the youngest was now about a year old. I became convinced that her pains were those of prolapsus—a neuralgic state of the abdomen, produced and maintained by a misplaced womb. In brief, I obtained permission to make an examination per vaginam; and upon pushing up the womb, which I found very low down near the vulva, the abdominal pain suddenly ceased, and in a few minutes afterwards she could bear, and did bear, without shrinking, the rudest pressure of the hand on the abdomen. This was the second instance of this sort of disorder I had met with; the first one having occurred in a young unmarried woman, about two years before. Since that period I have seen sixty or more similar cases, all of which bore, with the exception of the state of the pulse, the most striking resemblance to acute peritonitis. I feel well assured that instances of disorder of the kind just pointed out, can only be properly denominated by the title of neuralgia from prolapsus uteri.

Let me advise you not to forget what I said a little while ago, as to the direction and the attitude of the womb. Do not make a mistake in your diagnostic—a mistake often made in practice by respectable practitioners, who misconceive the case as a sample of hepatitis, or nephritis, or retroversion, whereas, it is a simple prolapsion. The womb always descends in a see-saw manner, the fundus falling lower and lower towards the sacrum, while the os tincæ rises towards the pubal arch as the fundus descends. It is not a case of retroversion, but a simple falling of the organ, in which it tends to become horizontal in the pelvis, instead of vertical; changing its place, however, so as to carry its os tincæ not merely nearer to the symphysis pubis, but sometimes even out of the pelvis entirely, below and in front of the arch of the symphysis. In a real retroversion, the mouth of the womb is not lower, but it is higher than the crown of the arch; in fact, the greatest difficulty in some cases of retroversion in the early stages of gestation is, that it is found impossible to get at the os tincæ at all, so high above the pubis is it forced by the augmented length of the gravid retroverted organ.

I must not omit here to call your attention to a consideration, important in all your reasonings and administerings, as to prolapsion, and that is, the function of the levator-ani muscles. This great fan-shaped membranous muscle arises, as you know, from the outer half of the inner margin of the pubis: from the obturator membrane, and from the ischial plane, just below the brim; and sending its fibres downwards and

inwards, goes to mingle them with some of the fibres of the sphincter ani and sphincter vaginæ muscles, and insert them generally into the parts around the lower end of the rectum and vagina; so that when it contracts, the effect is, to pull the lower end of the gut upwards, towards the plane of the superior strait; while in doing so it also lifts up the vagina and womb. This muscle therefore is ordained as the chief active antagonist of the diaphragm and abdominal muscles, which, in straining at stool, and at urine, as well as in labors, tend always to push the perineum more and more downwards. Now, in order to counteract this tendency to descent of the perineal planes, the levator is provided, in order to pull the perineum upwards again, and keep all things in *sitû naturalî*. This is an action familiar to all persons, but it is most strikingly perceived in the course of a labor, in which you shall observe that when the throes push the head of the child against the floor of the pelvis, and thrust it so far downwards as to drive it even lower than the planes of the perineal strait, making there the enormous perineal tumor, the whole head, immediately after the pain is off, by a few contractions, pulls, or jerks of the levator, is drawn back again within the pelvis, so as to make the patient exclaim: "Oh! it's gone back again;" which is the fact; for of a truth, the head is driven down and pulled up again by turns, in some labors, for several hours, by this mechanism. Now, in a case where this strife betwixt the tenesmic and the levator power has been long and fatiguing, it happens, not rarely, that the levator does not recover its tone and full force for months, and even for years after the labor, because of the debilitation produced in it by its suffering in the labor: but this want of relevative power leaves the woman with a perineal tissue lower than it was before she was in labor. But, if the woman be the subject of frequent childbirth, her perineum grows weaker and weaker at every successive trial, until at last it becomes convex outwards, instead of concave, as it is in the young and the vigorous. All healthy young people have the anus high up in the sulcus betwixt the nates; but all old and weak people allow it to sink downwards; until at last, in the very aged and feeble, it is not a sulcus that we find at the perineal strait, but a broad soft convex tumor rather. See, then, how important is the office of the levator-ani. See how it may be overstrained and enfeebled by one or by many labors; and how, when it does get into such feeble health, it allows the pelvic viscera to sink, or prolapse. Do you not, also, in this view of the case, perceive how it may happen that habitual costiveness of the rectum, or protracted chronic dysenteries may weaken the levators, and depress not them only, but the whole perineum, and all the contents of the pelvis, which in a degree repose upon it, and depend upon it for

their best support? It appears to me that a true prolapsus uteri can hardly take place while the levators are strong, and that we cannot have a weakened and enervated levator in the female without more or less of prolapsus, or tendency thereto.

Where the levators have thus become injured, there will be the sense of weakness, weight, and bearing down in the pelvis; and this is one of the sources of those complaints that are made by the patient.

This complaint of bearing down is, being interpreted—*tenesmus uteri.* Stephanus says, "tenesmus, or more properly tenasmos, τεινασμος, id est crebra et inanis voluntas egerendi;" a vain and frequent desire to evacuate; which is Pliny's account of it. How can you have such a crebra et inanis voluntas, if your levator be strong! I am very sure if you had any art to give to a poor woman, with prolapsus of the womb, a great thick red levator muscle, she could no more have a prolapsus than she could have a procidentia while the constrictor vaginæ is closed with a spasmodic force.

Levret says that but few women with descent of the womb are ever radically cured, by any treatment whatever, and are unable to dispense with the use of the pessary; and "quand elles deviennent assez heureuses pour n'en avoir plus bésoin hors de la grossesse, ce n'est que lorsque de très maigre elles sont devenues très grasses, en faisant un usage constant du pessaire."—*L'Art des Accouchemens*, p. 433.

I think Mons. Levret cannot be borne out by facts in this discouraging statement, for I have certainly met with many women who have recovered, and yet have not grown fat. A lady long subject to prolapsus, who used a pessary for four years, told me to-day, May 13, that she is perfectly well: she is no fatter than she was before. I know more than a hundred such.

Let me now reconsider the foregoing observations, in order to ascertain what results we have come to.

1. The womb rests on the top of the vagina, a membranous tube, attached partly, on its posterior face, to the rectum; on its sides, to the cellular tela included between the laminæ of the ligamenta lata; and in front, to the bladder, to which a part of the womb also adheres; it is kept stretched out to its full length by the ligamenta utero-sacralia.

2. In the natural position of the womb, its axis coincides with a tangent of Carus's curve, a little below the plane of the superior strait.

3. In descending, in prolapsion, it slides down Carus's curve, so that, at last, it becomes horizontal in the pelvis, from which, 4, in procidentia, it finally escapes.

5. As long as the vagina retains its dimensions, there can be no prolapsion.

6. In all prolapsions, when the vagina recovers its pristine longitude, the prolapsion ceases, and so in proportion.

7. There is always some complicity of a feebleness of the levators and the perineum with a prolapsion of the womb.

8. Prolapsus uteri is not a disease of the womb, but only a disease of the vagina.

9. The indication of cure in prolapsus *is an indication to cure the vagina.*

It has been charged against me by a writer, a snob, in the *British and Foreign Medical Review*, that this statement is incorrect, &c. (*vide* number for October, 1849). I have the greatest respect for that Journal, but I can trust my own head rather than that of the reviewer.

In this, as in most of the sexual maladies, the difficulty of effecting a cure is greatly enhanced by those sentiments of a fastidious delicacy which sever so trenchantly the two sexes from each other in the ordinary relations of social intercourse; and to such a degree does this extend in this class of maladies, that the patient ordinarily conceals the fact, or the extent of her suffering, lest, upon betraying them, she should be compelled to make confession to the physician; so that our duty in the cure is greatly embarrassed by the advanced and chronical stages at which the malady has arrived before it is placed under our care.

We are, in many instances, not permitted to institute the only inquiries that would possibly reveal to us the precise nature and indication of the case. Even after we have been consulted, and where certain concessions are made, there often remains some degree of uncertainty, because we cannot freely employ every means of research in exploring, and in repeating the explorations of their maladies.

This difficulty is probably greater in this country than it is in Europe. I am rejoiced at it; because, however inconvenient, and however baffling in the particular instances of suffering, it is an evidence of a high and worthy grade of moral feeling. And I hope the day is far distant when the spectacle shall be seen in our hospitals, of troops of women, waiting, in succession, for a public examination of their genitalia, in presence of large classes of medical practitioners and students of medicine. I regard this public sentiment, as to the sanctity of the female modesty and chastity, as one of the strong safeguards of our spontaneous public polity; for woman, and man's respect and love for her, are truly at the basis, and are indeed the very corner-stone of civilization and public order. He is but the pander of vice who parades his thousands of uterine cases before the public gaze; and is himself an unchaste man, who ruthlessly insists upon a vaginal taxis in all the

cases of women's diseases that, however remotely, may seem to have any, the least connection with disorders of their reproductive tissues.

While I say these things to you, my young friends, I am bound also to say, that it will be your painful, even your distressing duty, to condescend to the task of making such explorations sometimes. It will be your duty either to do so, or to desist from bearing the responsibility of curing the patient, whose case you cannot by any other proceeding become acquainted with. Yet, even in this official ministry, it is possible so to demean yourself—to be so filled with respect and with compassion for the afflicted, as to discharge the obligation without wounding the self-esteem of the patient, or lowering yourself from the high station of a missionary of health, furnished, by the blessing of Providence, with the wisdom and the skill, not truly to raise the dead, and give sight to the blind, but yet to make truly alive again, driving away the dark-winged fiend who is hovering over his promised victim, and scattering roses where the lily only drooped before, and opening up in renewed freshness and copiousness the fountains and streams of life, and hope, and enjoyment that always spring where Hygeia treads.

What need have I to speak further in this letter as to the signs by which the case of prolapsus uteri may be discriminated from all other affections? If you remember the manner in which Prof. Carus's curve is projected, you will also at once perceive what must be the attitude and direction of the womb in all the successive stages of its descent to the bottom of the pelvis. But lest you should have forgotten that famous projection, let me describe it again. Bisect a dried pelvis from front to rear; set one leg of a compass on the symphysis pubis; open the compass two or two and a quarter inches, equal to the semi-diameter of the superior strait measured from pubis to sacrum; then describe with the free leg an arc of a vertical circle, commencing at the plane of the upper strait, and terminating before and below the crown of the pubal arch. This is Carus's curve, or the curved axis of the excavation. This is the curve, coincidently with which the centre of the fœtal encephalon moves in passing through the pelvis, in labor; and it is the curve down which the womb slides as it descends in prolapsion of the uterus; so that, when the womb is high, the os tincæ looks downwards and backwards; when half down, it looks downwards; whereas, when quite down, it points forwards.

Please remember, however, that in the descent of the non-gravid uterus, there is no distension of the perineum like that which attends the advance of the fœtal head. Consequently, the lower the womb sinks, the more horizontal does it become, since the perineum presses the escaping cervix uteri quite up to the crown of the arch. In fact, the cer-

vix approaches the centre of Carus's circle as it falls, while the fundus departs from it at a tangent. This explanation is to help you to discriminate betwixt a true retroversion and a mere prolapsion of the uterus.

There is a new book lately put forth by Dr. James Henry Bennet, of London. *A Practical Treatise on Inflammatory Ulceration and Induration of the Neck of the Uterus.* Lond., 8vo. pp. 212, 1845. Dr. B. informs you that he had long opportunities at Paris, in hospital practice, to witness the treatment of these cases, and to make very careful researches as to their true nature and cure. The result is, that, in prolapsus, there is always swelling or engorgement of the neck of the womb; which, by its weight, pulls the organ down, dragging the vagina with it. Such is Dr. Bennet's proposition; and I now lay it before you in order to ask you what you think of its reasonableness. Pray observe, that an engorgement and swelling of the vaginal cervix uteri weighs and pulls downwards the whole organ; and when you cure the engorgement, then the ponderosity being done away with, the womb rises again to its accustomed place. I quote from page 53: "The uterus is so slightly poised or suspended in the cavity of the pelvis, that the slightest modification in its volume gives rise to a change in its position. The inflammatory hypertrophy of the cervix increasing considerably the specific gravity of the inferior portion of the uterus, the entire organ descends, prolapses."

Now here is a rationale which you are to accept, and accepting, you are to act upon it as a guiding principle in practice; or you are to regard it as unsatisfactory in itself, and incompetent to control your therapeutical or chirurgical ministrations. Judge now: the weight of a non-gravid womb seldom exceeds two ounces, and of that the vaginal cervix constitutes not more than one-fifth part. But the author says that the engorgement and swelling of this fifth part drags the womb and vagina down to the bottom of the pelvis, and of course tends to precipitate them both entirely outside the cavity. Is this a reasonable rationale? Does it comport with other and analogous facts? Does the womb tumble out of the genital fissure because it grows heavy with gravidity, or with heterologue development; and does not the weight and heft of a womb at three or four months of gestation, far exceed any imaginable augmentation of its weight in engorgement and swelling of the cervix uteri? But, if a gravid womb of three months is not a fallen womb, why should an engorgement of the cervix, not amounting in increase of weight to one ounce for the whole organ, have such an effect? I cannot think you will accept Dr. Bennet's rationale; nor will you twit me with the so oft-repeated French axiom, "*à ventre plat enfant il y a—.*"

You will meet with many cases of swollen and hardened—even indurated womb, in which that organ comes to weigh a pound or more, and yet it does not necessarily prolapse. I certainly have had many such under my care, and have not found them to prolapse; indeed, I am sure that one of the worst procidentias I ever saw was that of a womb which would not, in the scale, weigh more than an ounce. How, then, can I believe that prolapsus is the effect of increased weight of the cervix uteri only?

Dr. Bennet's explanation, then, does not explain the cause of prolapsus. Yet Dr. B.'s work is very well worthy of your regard; for it contains many cases of uterine disorders that were prudently, sagaciously, and successfully treated. I should be very glad if you would all read his work, because he is a man of sense and conduct, who is well esteemed in London. Nevertheless, I cannot agree with him in his views of the cause of prolapsus uteri.

I refer you to remarks already made by me, concerning the power of the Tenesmus. And I beg you here to consider whether Dr. Bennet ought not rather to have attributed the descent of the uterus to a tenesmical state provoked by uterine irritation, whether located in the cervix, or in other portions of the organ, or in the vagina itself, than to the mere gravitation of an augmented weight.

I should think that, of a given number of cases, ninety per cent. will be observed in persons who have had children. Nay, I doubt whether ninety-five per cent. of the cases are not caused by gestation and labor; for, of the cases supposed to be prolapsus, a very large number are not really of that class, but consist of disorders arising from faulty innervation of various tissues within the pelvis, and curable by other means than those that are indispensable for the successful treatment of prolapsus of the organ.

In the early months of pregnancy, the womb, whose fundus grows broad and expansive, is pressed downwards into the pelvis by the superincumbent weight of the bowels, and by the tenesmic force of the abdominal muscles. So that the os uteri settles at a lower plane of the excavation, yet cannot be said to be prolapsed, but only pressed downwards, or weighed downwards; for there is no real disease of the vagina. As pregnancy advances and the uterus expands with the growing ovum, the excavation of the pelvis becomes too small to contain it, and it accordingly, at about four and a half months of gestation, rises above the plane of the superior strait. When it has thus gone up, at the period of quickening, the vagina is greatly elongated, so much so, indeed, that in making the examination by the taxis, the extremity

of the indicator finger can, sometimes, scarcely be carried so high up as to touch the os tincæ.

In most women, pregnant beyond the fourth month, then, you will expect to find the very contrary of the state of prolapsion, and be embarrassed in making the taxis. This is not always the case. For example, a woman shall have a very large and capacious upper strait; a strait of such dimensions as to offer no impediment to the escape of the head in labor. Of course, such a strait will not prevent the lower segment of the gravid womb from settling down on the very floor of the pelvis—a true prolapsus, which is a most disquieting thing for the woman, who is subject to a constant kneading, or tenesmic sensation, produced by the weight and pressure of the gravid uterus on the rectum, and its jamming effect on the bladder, which is thrust by it against the pubis, or the lower extremity of the *linea alba*.

You may well venture to anticipate for such a woman the sufferings arising from a precipitation of the womb, after the termination of her pregnancy; for the long habitual descent of the vagina, thus brought about, establishes in that very vagina a disposition to remain in the same shortened state long after the cause is removed by the birth of the child.

These remarks show you how proper it is to enumerate among the causes of prolapsion, an excessive amplitude of the pelvis.

Many women complain to us of having brought on a falling of the womb by some great and sudden effort that they have made; such as lifting a heavy child, or raising some great weight, which caused the sensation of something giving way in the interior of the body. Many such explanations have been given to me of the causes of the prolapsus that my patient complained of. Others, again, have accused their monthly nurse of ruining their health by allowing them to sit up too early, as on the fifth day, or the fourth day; and many a nurse has been doomed to the condign denomination of careless *hussy*, because she neglected to put on the binder tight enough to hold the womb up in its proper place, or for other equally unaccountable omissions. But while it is true that a woman getting out of bed for half an hour at that period of the lying-in, certainly does allow the womb to settle downwards from its own weight, it is equally true that, if it remains down after she has gone to her couch again, it does so on account of the weakness of the vaginal walls, which weakness would allow it to go quite as far down at the first alvine dejection, or effort to pass the urine. When I remember how the womb is secured in the pelvis, I cannot believe that a sudden effort can make it suddenly prolapse, and stay so. For, I am very sure that no alvine dejection of a woman who is slightly consti-

pated, can ever take place but at the expense of a tenesmic force sufficient to push the womb lower down than it does fall in eight out of ten of the real prolapsions. Hence, when a patient tells me that she made her womb fall by straining herself suddenly, or by getting out of bed for half an hour, I do not believe her, for I cannot understand how she could produce such an effect. I always am ready, under such circumstances, to suspect that she may have brought about a retroversion of the womb, but not a prolapsion. A retroversion *may* take place in an instant; a prolapsion requires a long course of preparation, before it can be accomplished. I refer you to Letter XLI. for reasons showing that the omission to tighten the binder is rather conservative than injurious in this disease.

But how is a man to know that the womb is prolapsed, taking his information solely from the statements of the patient? He cannot discriminate between the many causes of the very same painful sensation; that painful sensation being the expression of distress arising from a great variety of states of the parts in the pelvis. The only way to ascertain very clearly what is the fault, is to examine by the Touch; and even that is insufficient in a great many of the cases of complaint. I say insufficient, not to detect a prolapsion, but to disclose the whole nature of the malady.

There is but one course to take when the patient declines to have her serious case inquired into; and that is to argue the point with her, so as to convince her judgment and obtain her consent; else, we should decline assuming the responsibility of curing her altogether. It is surely better to have nothing to do with the conduct of a case of disease, in which the absolutely needful information is withheld. A physician who acts without knowing why, is more mischievous often than a disease left to its own native tendencies. Now—to continue in the care of a case you cannot cure because you do not understand it, is neither profitable nor honorable. The greatest profit being always attendant on him who makes the best and promptest cures; and the greatest honor too.

Dr. Heberden, in his Commentaries, chap. cii., says: "A prolapsus of the vagina, or the womb, is only to be relieved by a pessary."

The pessary is older than the time of Hippocrates. The Treatise on Diseases of Women by the sage of Cos is full of directions for the confection and use of a great many kinds of pessaries; and some of them are still in use in the world. The pessaries of old were scarce looked on in a true light—for the *pessa* were medicated, and were applied for the most part not merely as chirurgical but as medical, or rather as therapeutical agents.

It is true that many of those applications were futile, and even ridi-

culous. Yet among them are to be found remedies that were possessed of excellent virtues. Those old time people who knew nothing of the circulation or absorption—who had no clear notions of the nervous system, and a scant histological information, could not possibly enjoy the same power of discrimination as to pathological conditions or therapeutical power, as the mere tyro of modern days. Nevertheless, they conducted many cases with prudence and success, not because they were possessed of vast erudition and skill, but because mankind had already acquired much practical knowledge of treatment; and those doctors knew and used that general or domestic medication. I shall not copy a list of the curious applications in the way of pessaries mentioned by the Father of Medicine; nor the strange methods recommended by other ancient authors. I shall to amuse you, say that one old writer, Avenzoar, advises that in an obstinate case of prolapsion, the woman should be laid down on the bed upon her back, and firmly held there by several persons sitting upon her, while a frog, lizard, mouse, or some other such terrific creature should be thrown on her feet and legs, with which she shall be so frightened, and make such efforts to withdraw her feet out of the danger, that the womb will at the same time be drawn up in its place. But I will give you the passage out of the venerable Arabian, so that the good son of Islam may, though he be dead, yet speak in this distant land, whose existence he wot not of, when he was alive.

"If the malady," says Avenzoar, "will yield to light treatment, it is well; si non, fac eam supinam jacere, et fac quod aliquis sedeat super pectus suam, et alius super crura; et fac eam terrere ponendo circa pedes ejus aliqua reptilia, sicut sunt mures vel lacertæ aut ranæ vel his-similia; ex quibus multum terrefiat, et velit fugere ab ipsis trahendo pedes et crura ad se; et inde omnia membra, et corpus totum simul contrahantur; et hac de causa matrix intus redibat ad locum suum; et cum redierit matrix, fac elevare coxas ejus in altum, et ordina ut jaceat supinam, et præcipe ut non se moveat omnino aliqua de causa, etiam, si vellet assellare."—*Avenzoar*, Fol. 85.

I have, besides old Avenzoar, a vast deal of learning as to female complaints now lying before me, in a folio volume, whose title, printed in alternate red and black lines, is as follows:—

"Gynæciorum, sive de Mulierum, tum Communibus tum Gravidarum, Parientium et Puerperarum Affectibus et Morbis; Libri *Græcorum*, *Arabum*, et *Latinorum*, Veterum et Recentium, Quotquot extant, &c. &c. Opere et studio Israelis Spachii, Med. Doc. et Profess. Argentinensis, 1597. Argentinæ." Folio.

This celebrated work is very difficult to find; I know of only three copies in this country; one of which is in the Loganian Library, another,

an edition in three vols. quarto in the library of Dr. J. Redman Coxe, and one in Folio in my own library. I was unable to find it in London, Paris, Heidelberg, or Geneva—and have in vain asked for it from Leipsic. I was so fortunate as lately to obtain a good copy from Mr. Hector Bossange at Paris.

It was a great merit in Professor Spach to collect and publish in one volume, so many authors on the diseases of women; and though the progress of knowledge in these latter days has rendered his labors little useful in the daily ministrations of our modern vocation, we ought all to thank him for his care in transmitting in so tangible a shape, the notions, whether sound or crude, of the fathers in our art.

Dr. Spach's book contains the works of Felix Plater, of Moschion emended by Gesner; of Cleopatra, Moschion, Priscian, and an anonymous author; of Trotula, or rather of Eros; of Nicholas Roche; Louis Bonacioli, of Ferrara; Jacob Silvius; John Ruff; Jerome Mercuriali; J. Baptist Montana; Victor Trincavelli; Albert Bottoni; John le Bon; Ambrose Paré; James Guillemeau; Albucasis; Francis Rousset; Cordæus's account of a lithopædion, or stone child; Caspar Bauhin; Maurice Cordæus's *Commentary on Hippocrates's Treatise on Female Diseases;* Martin Akakia's work on *Diseases of Females*, and Louis Mercati's four works called *Gynæciorum.*

The first work is that of Felix Plater, of Basle; then follows a Greek copy of Moschion, *peri gunaikeone Pathone*, a treatise on Female complaints; after which, we have a Harmony of Female Diseases, *Harmoniæ Gynæciorum;* the third chapter of which treats of conception. I mention this, not to fatigue you, but because I wish you to be aware that pessaries are very ancient remedies; and that when weak people and quacks shall pretend to scorn them, you may not be disquieted on that account, and make yourself ridiculous also by scoffing at a necessary evil; for you will find some, even among the doctors, who think that a pessary is an incarnate demon, which ought to be laid in the Red Sea, with all its supporters and partisans. Well, this third chapter has an account of pessaries, described in different paragraphs, and severally designed for every variety of ill—I shall count them for you—and I find here fourteen different sorts of pessaries; some to make a woman conceive, and some to make her not conceive, &c. &c.

As to pessaries, you would be very much amused to see the mixture of good sense and nonsense contained in Hippocrates's book, *De Morb. Mulierum;* but I am sure you will not, like the Divine old man, tie a lady's feet up to the tester, in order to make her womb go up to its place; for you know very well that you can push it up to its place, and that it will stay up as well for your touch as for his barbarous

methodus medendi. Old Sieur de la Motte, whose paragraph I quoted at the beginning of this letter, tells you that the womb goes up as soon as you push it with the finger, and comes back again as soon as you take away the support. The father of all the doctors, I mean the Sage of Cos, knew less of the nature of prolapsions than the honest French knight.

You may safely make up your minds that, if you are to have anything to do with the management of these cases, you will be obliged to condescend to the use of the pessary. A man might as well treat fractures without the splint, as these affections without some mechanical stay and support on the inside, not the outside of the body. Remember what Heberden said.

The whole result of consideration of the subject is, that pessaries are necessary evils; since I conclude it is better for a woman to have a pessary, and feel comfortable, than not to have one, and lie all the year lounging and losing her health, for want of air and exercise; so that, Dr. Heberden is, though not right, yet almost right in his assertion above quoted.

I say Dr. Heberden is not right, but almost right; and here are my reasons for saying so. I detest the pessary, as a disagreeable and disgusting thing, whether to order or to wear. I will never employ one except where a conscientious regard to the sanctity of the interests committed to my care seem to render it indispensable. Now what I wish you to understand, is, that it is not always indispensable even to think of the pessary because a female has pain in the back and hypogastrium, and a bearing down sensation and urinary tenesmus. When women complain of such annoyances, we are very apt to leap at once to the conclusion that she has some deviation. But, I do find a very considerable number of women who, complaining of uterine tenesmus, attended with the host of nervous pains and inabilities that follow in the train of uterine deviations and displacements, yet have none. You will very readily come to my way of thinking on this subject if you will take Professor Tiedemann's *Tabulæ Nervorum Uteri*, and, looking at his second plate, study leisurely out the distribution and catenation of those innumerable nerves that descend from the sacral portions of the great sympathetic, and from the upper uterine plexus, to knit and tie together the whole of the pelvic viscera in a common bond of innervation. The examination of this plate, and of Robert Lee's exposition of the uterine nerves, ought to show you that though a woman may tell you she has a bearing down of the womb, she really knows nothing about it. There are a great many unmarried ladies who complain in this way; and who, in consequence of such sensations, lose

their spirits, and give themselves over to a habit of moping and fretting, out of some prospect they set up before their fancy, of uselessness and worthlessness in the world. What, indeed, can be more discouraging and melancholy for a fine girl than the idea that she lets into her brain, like an *idée dominante*, as Esquirol calls it, that she is unfit to be married; that she cannot have children; that she has some horrid malady of those private parts of her person, on whose health and perfection all her charms depend—because, she well knows that a woman with a uterine disease loses her bloom, her gayety, and splendor. These are cases simulating the phenomenon of prolapsion—and, indeed, it may be that there is some slight descent of the organ, arising from laxity of fibre and a general debility dependent on a faulty hæmatosis. Such cases do not at all require that the lady should be subjected to the grief and vexation inseparable from a medical exploration by taxis. And, in fact, the experience of the physician should enable him, with a *coup d'œil*, to determine the non-existence of conditions demanding so painful a concession. Do not compel the young girl then to submit to the debasement of a vaginal examination except on a well-founded opinion of its necessity for her—and for you. When it *is* necessary, it is not a debasement. She is a fool to refuse it; and if you be a physician, in deed and in truth, with the missionary heart and soul of a physician, God's messenger, I say she is a fool to decline your proffered aid.

Remember that pelvic pain does not always imply deviation and displacement—though the patient herself may imagine that it does, and is unhappy about it; yea, even sick. I assure you I have encountered and do frequently meet with many young girls, and certain young married women also, who are thus afflicted with a thought, oppressed with a notion, and slowly assassinated by an idea. In encountering such a case I have often proceeded as follows: and I beg you to pardon me, and I beg the pardon of all the critics, who perhaps will gibbet me before the brethren for twenty years to come, should my name last that long, for daring to put such things in print. They will say, indeed they have said, that such dialogues as the following are not fit for medical books. Such things they say are below the dignity of medical composition, and a complete innovation on the time-honored solemnity of the powdered wig, square-toed shoes and buckles, and gold-headed cane of the medical faculty. I say I beg pardon of the critics; and hope they will overlook me, as I consider myself merely holding a plain chat with each one of you in particular in my own library here at home, as I told you I would do, when I engaged before all the class to send you these familiar letters.

I was requested on the —— day of ——— 184–, to visit Miss Helen Blanque, at No. — Chestnut street, and when I called at 11 o'clock in the morning, I found her reposing in a luxurious *fauteuil* of the richest crewel-work. She was arrayed in a beautiful *negligée*, and her slippered feet rested on a low ottoman. The apartment was richly furnished with mirrors, and chandeliers, and candelabras, and carved sofas, with chairs of every form and hue. A fresh bouquet stood upon the little table near her, by half a dozen volumes, some of which were opened and lying on their faces, as if taken up and laid down in disgust; her hair was in curls, but carelessly; and the *tout ensemble* of the young lady was expressive of languor and indifference, if not of pain or distress. As she was an old acquaintance, I could speak to her very familiarly, and so I began the following conversation:—

"Good morning, dear Helen; I hope you are not very sick; and indeed I must think you are not, if I may judge by your fair face and bright eyes. What can you possibly want with a doctor? Don't you know it is a very dangerous thing to meddle with people who go about the world with their pockets full of lancets, blue pills, and iodine?"

"Oh dear me, doctor, I am very ill indeed! and I desired to know if you could do anything that might enable me to get rid of the pain and weakness I have endured so long?"

"How long?"

"Why, it is at least two years and a half that I have been absolutely broken down with this misery. I can't stand up nor kneel at church without pain; I faint at Bailey & Kitchen's, or at Levy's compter; the opera kills me—I cannot dance, much less waltz; and if I am to live this way, I do declare my opinion is settled, and that is that life is no boon—not worth having—I'd as lief die as live."

"Tilly-vally, child! there is little the matter with you. You are not half as ill as you think for, and that I shall soon show you."

"I didn't think that Dr. M. would make light of a lady's sufferings!"

"No, indeed! I shall make no game nor no light matter of it; so don't fret, my dear; but let us have a complete understanding with each other. I, that I may know what duty I have in relation to your case; and you, that you may learn how far you ought to be obedient to my counsels. To begin, then, what is your age, Helen?"

"I am just turned of two-and-twenty."

"Charming age! Only two-and-twenty! What a happy creature you ought to be! I should think the bare thought ought to cure you. Only twenty-two!"

"But, doctor, I tell you I am sick; what's the use of two-and-twenty and ill health?"

"Why, my dear, don't you know that two-and-twenty alone will cure you without a doctor? But come, tell me about your former health. Have you ever had violent diseases, as fever, inflammation, scarlatina, rheumatism?"

"Never; I have been very healthy up to the time of this illness."

"Pray! what was your age when you changed?"

"I was not quite fourteen."

"Was you well before, during, and for some time after that occasion?"

"Perfectly."

"Have you been regularly periodical ever since?"

"Exactly so."

"How many days?"

"Five days."

"How many changes from first to last?"

"Twelve."

"Always a dozen, eh!"

"Yes—perhaps sometimes ten, sometimes perhaps fourteen."

"Is it still the case?"

"No, sir; I have for the last year not had more than six to eight. I do believe it's leaving me. I'm growing old."

"Pshaw! Old at two-and-twenty! Why you are hardly born yet. You are a mere flower-bud come too early in the spring; but summer is nigh, and a long summer may it be to you. But let that pass. Tell me, how is your sleep?"

"The sleep? why not good—so so—often waked, often disturbed by dreaming."

"You must tell me something as to your digestive powers. Have you acidity and flatulence?"

"Yes, very much. I have the *bouche pâteuse* every morning—a horrid, vile taste in the mouth and throat."

"H-m! that's because you have a quarrel with Providence. Take care you don't get the worst of it. The daily evacuation—is that right, or are you a little constipated?"

"Oh, very much. I am always obliged to take Seidlitz, or rhubarb, or some other medicinal *horror*."

"Well, that's enough now. As to exercise, pray, my dear, have you walked three hundred and sixty-five miles since this day a year ago?"

"Three hundred and sixty-five miles! Why, Doctor, what are you thinking of? Three hundred and sixty-five miles indeed! What an idea!"

"But consider, if you have not walked three hundred and sixty-five

miles in a year, you have not walked as far as from Front to Eleventh street once a day, and that, you know, is but just a mile. How can you expect to be well, and how to keep clear of the doctors, unless you do at least that much walking?"

"Why—bless your soul, doctor? I can't walk round a square without suffering the most dreadful pain in my back and down my limbs; and if I ever stand before the glass to put up my hair in the morning, I feel as if I should drop; in fact, I am now always obliged to sit down to dress my hair."

"What a pity! If I were like you, I should certainly meet the fate of Narcissus—I should never weary with gazing in the mirror."

"How so?"

"Is it not delightful to look at beautiful objects?"

"Ah, doctor, doctor!" holding up her finger.

"Very good, child, I see how it is with you, and how it's like to be, if you will follow your own counsel; and that is, that you'll get to be bed-ridden, and come to what the farmers call *lifting*. But I shall provide against that; for, be assured, I shall compel you to walk six miles every day of your life, rain or shine."

"You might as well talk of six hundred miles as six, sir; and, in fine, I see you have no idea of my state at all; nay, the very reverse. I'm sure you speak very extravagantly, sir! I find myself really ill; and here are you trying to talk or flatter me out of a physical pain. Do you suppose me a *malade imaginaire?*"

"No, not absolutely. But I do know already that your malady is less severe than you have supposed it to be. Yet it might, perhaps, turn out worse than I at first suppose; and least it should be so, I ought to learn more particularly what your real condition is. Will you suffer me to knock on your chest a little bit? I wish to percuss it a little, merely to learn what kind of sounds it may yield when struck upon."

"Yes, sir, as you please."

And so I percuss her thorax all over with the most healthful resonance everywhere.

"Now put your fingers to your mouth and draw in your breath between them so as to make a hissing sound as the air rushes into the lungs. Do it slowly, and as long as you can. I wish to judge as to how many cubic inches of air you can inhale at each forced aspiration. Do it thus—so—just as I show you how. Yes, that's well. Why, you imbibed at least one hundred and fifty cubic inches, with one aspiration, and that is most admirable. Your lungs are as soft and as light as the last new sponge from Cephalonia or Corfu. Now, sit still,

and don't speak—I am going to count your breathings. There—you breathe fifteen times a minute, and that is just right; just nine hundred respirations to the hour, and very sufficient full ones they are. I must count your pulse. Let's see—seventy-two beats to the minute!—regular in the intervals as the town-clock pendulum! But your face is rather pale, I see; nay, you are by this better light quite pale. Have you been so long?"

"Oh yes, sir, these two years; these two mortal years I am pale as a ghost."

"No wonder!—nobody can have color, except out of the rouge saucer, who does not walk at least two thousand miles per annum in the open sunlight. You hav'n't walked a hundred. What is your ordinary weight?"

"Oh, doctor, I used to be exactly witches' weight, one hundred and seven, you know; but now I'm all gone, and am only ninety-six and three-quarters! Ain't it dreadful?"

"That is a pity, I confess, though not quite dreadful. Let me feel your arm. Come, there's something left of you yet, for your arm is not an absolute parallelopiped, though it's not as round as I could wish; and I perceive that your muscles and tissues are soft, not solid like wood or ivory."

"Yes, indeed, I am in a most dreadful state."

"Well, never mind your dreadful state, my dear child—never mind that—wait a little till I cure you, and you shall, with the blessing, have two cheeks like the sunny side of an apple; and those pale lips shall pout like twin cherries. But I have one more inquiry to make, and that is, as to your real ability to move about. Don't you find when you go up stairs that your heart throbs very much?"

"Throbs! doctor! why it jumps up to the top of my throat! and I am so out of breath that I am obliged to stop on the stairs once or twice before I can get up to the top; and my poor knees feel as if they would bend under me in spite of my will. In fact, doctor, my free-will over myself is nullified and abolished; so you see if you cure me at all, you are to clear me of those two antithetical pests of the time, nullification and abolition."

"Very good, very good, dear, I take. That's very well. But let us try an experiment about this poor little heart of yours that throbs so: yet before we begin, let me say that the best test of the power of the heart is that derived from observing it when under the influence of exercise, and that is the observation I am about to make; but before we try the experiment, let us see again how we are—how does the heart behave itself while you are sitting at ease, and quite free from the effects of any phy-

sical exertion. I wish to count your pulse again. There—it beats while you are sitting on the sofa, just seventy-two times a minute, as before, which is right. Now go out at the door, and walk to the top of the stair; not in a hurry, but in a good pace, as if you were going up for your hat or your shawl; and as soon as you come to the second story, turn and come back to take your seat again, that I may feel your pulse after the exercise. I want to know how many additional pulsations you will require to carry you to the top of the stair—that's the object of my experiment." She walked up the stairs, and upon her return I found the pulse 140 per minute (I have often counted it at 160 for such a trip), and said to her: "See here now what an extraordinary thing. Your pulse, before you went out was seventy-two—it was one hundred and forty upon your return; that is to say, to carry you up sixteen feet, the height of the ceiling, your heart was required to beat sixty-eight extra times, or one hundred and forty times per minute. Do you understand that, or is it all Greek and Hebrew to you?"

"Indeed, indeed, I hav'n't the least notion of it, except I know that it tires me to death to go up, and makes my heart palpitate like the fluttering of a pigeon. It's very strange."

"No, indeed," I rejoined, "there's nothing strange in it; and I can make you understand the matter very clearly in a few minutes, if you are willing—and I should like very much to do so—because if you could but understand what you really require in the way of a cure, I suppose it would be far easier to cure you."

"Oh, pray do, doctor! do tell me all about it, for I'm dying to learn what is the matter with me. I'm sure I hav'n't the least idea of the nature of the indisposition that has reduced me from the most perfect health and strength to this miserable condition. Reason with me about it, for I am not devoid of common sense at least, and if you yourself know what it is that ails me, you can make me know it also—surely you can. I like reason and common sense above all things. I detest faith and obedience, except as to serious things, and I am a full believer in common sense and conviction. If you address my common sense, you will command my most implicit faith and compliance. Women, who seem to me to be a sort of human Parias—and have lost caste—are always flattered and soothed by being treated as if they were really reasoning beings; for when so treated they seem to have regained their caste. Tell me, then, as clearly as you can, without any of your Latin and Greek technicalities, what it is that ails me, for I assure you I am a most miserable, most unhappy creature."

"Well, then, open your ears—or, as Antony said to the mob, 'lend me your ears,' not that I may pour any 'leprous distilment' of Latin or

Greek into their porches, but that I may fill them with some of the most enchanting truths of Biology, or Life doctrine, which is the same thing. Do you know what Moses the prophet said about you, my dear? and he was a prophet."

"What did Moses say about *me?*"

"Why, in speaking of you he said '*the blood thereof is the life thereof,*' which was equivalent to saying that where there is no blood there is no life, or this other equivalent: where the blood is bad, there is a bad life, a life not strong—not healthful, hardly worth having as a gift! Miss Helen thinks so."

"Oh, my! doctor! do you mean to say my blood is impure? what a horrid idea!—how very dreadful—shocking!"

"Far from it, my dear; it's bad because it's too pure—it's too delicate, too lady-like, too thin, too weak—too dilute. It has not enough of consistency, which the doctors call Crasis, to effect fully all the purposes for which it was given to you, except when you are sitting still or merely lounging. But for any emergency or effort, it is not strong enough; for example, it is strong enough at seventy-two beats of your heart to let you sit on that fauteuil very comfortably; but it must have 140 beats to walk you up one pair of stairs—and I am sure if it would be hurried by 200 pulsations, it is not strong enough to lift you to the top of the shot-tower down yonder by the Navy Yard!"

"Ah, doctor, you are talking parables with me; and I can't read them."

"To be sure you can't; I didn't expect you could; but you will, by and by. See here; here is a very large vein on the back of my hand—I suppose you know what a vein is, dont you?"

"Oh yes—that's a vein, and so is that."

"True; but what's a vein for?"

"I'm sure I don't know; but I believe they are where people are bled, arn't they?"

"Yes—but if people are bled from their veins, it is because there is blood inside of them. Now, attend carefully to what I say. Do you see this—this is a vein—and you are to understand that a vein is a blood-tube. This one on my hand is about the size of a swan quill, is it not?"

"Yes, sir, it seems so."

"But this tube, this swan quill, has another tube inside of it—a quill inside of the barrel of the swan quill, and the two grow fast to each other, making a double-coated tube; do you understand that?"

"Perfectly. That's very clear."

"Very well; now you see I have many veins on the back of my

hand; for I am getting old, and they become more visible in the aged, than in such young things as you: look at your own hand—I see a small blue trace where the delicate vein tints through the translucent skin. How pretty it looks! But you see I have not one vein only, but a thousand—nay, perhaps many thousands—which are connected with certain still smaller tubes, that are called by us capillaries, because *capillum* is Latin for a hair, and because these capillaries are as small and fine as hairs. They are all blood-tubes. Do you see?"

"Oh yes, very plainly."

"Well; these capillaries are millions and billions in number; but they are only the fine extremities of arteries and the beginnings of veins. Arteries are the tubes that beat; we feel an artery to discover its pulses, its pulsations. When a doctor puts his finger on your wrist, he does it in order that he may feel your arterial pulse. That pulse is caused by the action of the heart, which fills and empties itself by turns of the blood that comes into it from the veins, discharging it into the arteries from whence it runs into the capillaries, thence into the veins, and so back to the heart again—which is what is called the circulation or circle of the blood. As the heart forces the blood out, it forces it with a pulsatory motion. If the pulse is big, hard, violent, it is because the heart sends out much—violently into a tube that strongly resists it; and therefore the tube feels hard, big, strong. So, now, you are to know that the arteries, the capillaries, and the veins, all alike consist of double-coated tubes, the end of an artery being the beginning of a capillary.

"I understand you perfectly; pray go on. Oh, how I should like to be a doctor."

"No you wouldn't! For it is the most abominable vocation ever man was engaged in, or woman either. But let us proceed.

"Now, how much blood do you suppose is in that little 96 pounds of a body of yours?"

"How should I know?"

"Sure enough, how should you?" but it is variously estimated at 500 or 600 ounces—but, 500 ounces is 31 pounds; leaving you 65 other pounds of flesh, bones, and so forth. But all this blood is contained in those arteries, capillaries, or veins, we were just now talking of. And this blood is not in contact with any part of your whole substance, save that inner tube, that inner quill within the swan quill; but, that inner tube is called the 'common membrane of the bloodvessels,' and it would be much more sensible of us, if we would never call it by any other name than the BLOOD-MEMBRANE, or the blood-making membrane: and if I were not too well-bred to speak Greek in your ears—I might call it

from η Αιματωσις, *blut-bereitung*, the hæmatosic membrane. The Greek word signifies blood-preparing, or blood-manufacturing membrane; or perhaps I might call it the Endangium, which means the inner vessel, or inner tube, for that is the name that is preferred for it by the great German physiologist, the illustrious Burdach; and a very pretty, convenient name it is, which expresses the idea of an inner vessel."

"Mr. Burdach! who is Mr. Burdach? Why do you depend on him —is he so great a name?"

"Burdach! Why, Helen! you put me in mind of the newspapers."

"How do I put you in mind of the newspapers, doctor?"

"Don't you remember all the newspapers asking, Who is James K. Polk? My dear! Mr. Fred. Burdach, Professor at Kœnigsberg, ought to be as much known as Aristotle, or Cuvier, or Linnæus, or Sir Humphrey Davy, or the most brilliant intelligence in the annals of history or biography. Burdach, indeed! I feel as if I ought always to take off my hat and make a bow when I see his name or hear it. He is a German Kanteio-Schelling-ian-Okenian physiologist and metaphysician, strong as Fichte in thought, and elaborate in learning as all the Jesuits of Port Royal, and old Mons. Virey to boot. Burdach makes me feel like the Arab doctor who said, "se malle cum Galeno errare quem cum omnibus aliis bene sentire"—he would rather be wrong with Galen than right with all the world besides. But let us go on with our endangium.

"If all the blood in your body touches this membrane, this tissue, this endangium, and nothing else in the wide world—then you have wit enough to perceive that, whatever may be the cause of the production of the blood, that cause must exist in this hæmatosic membrane; I say exist in it, either as originally resident therein, or at the least, as transmitted therethrough. This membrane is the ultimate, or the penultimate tissue in the hematosis.

"Suppose that membrane to be all right—all well—perfectly healthy and active in the performance of its duty in making 'the blood thereof,' don't you see that 'the life thereof' will be good and strong, and durable and pleasant. But, suppose, on the other hand, that the hæmatosic membrane is pale, flaccid, sick—weakly—good for nothing, can't you see that 'the blood thereof' will be like 'the life thereof'—good for little, or good for nothing? But the blood thereof is the life thereof."

"Oh yes—certainly, how very curious—and how vastly amusing!"

"Amusing! It's more than amusing, it's useful.

"But come, let's get on with our lecture. See here, now, here's a little shagreen box, with this brass tube in it, that I shall take out. This is one of Dr. Donné's microscopes; it is composed of certain

magnifying glasses so adjusted the one behind the other that any object, seen through it, is greatly magnified; and, indeed, you can discover in it objects so small as to be far too minute to be seen by the naked eye. It 's a very pretty instrument, and a very useful one, too, especially to us; who often have occasion to see things that other people cannot see—and we do see them, too, though the vulgar accuse us, now and then, of pretending to see through a grindstone. Lend me a needle."

"A needle, oh! I hav'n't one."

"Not a needle!—why! what should a lady do without a needle? I thought a lady and a needle as inseparable as Chang and Eng. It's a bad sign, when a lady has no needle! Why, you must be sick indeed, Helen, not to have a needle about you! Don't you know a woman is a needling and thimbling machine. I'm sorry there's no needle. Well, then, a pin—surely you have a pin! Thank you. Now look! I prick my finger with the pin, and there's a minute droplet of blood, and now, I have put the little drop on this plate of glass: and there, it is adjusted under the object-glass of the microscope—now, look through it; what do you see?"

"Good gracious! what a curious sight!—why I see a million of berries, or peas, or shots, or little balls; no, they are not balls; they look like little bits of biscuits; or rather they are like new thick quarter dollars on the banker's counter."

"You are perfectly right, dear; they do look like little thick quarter dollars, or small discuses. Those objects that you are gazing at are magnified by the glasses just 300 diameters; and they consist of the particles of the blood, or corpuscles of the blood—they used to be called globules of the blood; at the present day they are called blood-disks. Don't you see—they are floating in a kind of watery fluid?"

"Oh yes, plainly. I see them swimming about and rolling over and over."

"Well, that fluid is the serum of the blood containing some albumen, which is dissolved in it. Was you ever bled?"

"Dear me, yes! what American was never bled?"

"Sure enough! Well, when you was bled, the blood divided itself into two parts, one red solid cake part, and the other a pale yellowish fluid or watery part: you see those parts separate in the microscope. The disks are the red blood, and the other the serum or watery part. If you was bled for a pleurisy, you probably observed on the top of the red cake clot a thickish or buff-looking colored matter, or crust—that was another portion, called fibrin. The last portion to be named, you never saw—it is the albuminous portion, or albumen (which is very

nearly pure in white of eggs), dissolved in that watery part of the blood in which you see the disks floating, so that, though it is there, you don't see it; neither could you see a lump of sugar, when it is dissolved in your glass of *eau sucrée*. Now come, we have analyzed the blood, and divided it into four parts, or kinds of things: 1, disks, 2, albumen, 3, fibrin, 4, water. When all these parts are justly mixed and proportioned, the blood is healthy; when otherwise, it is unhealthy; yours is unhealthy."

"How is mine out of order, doctor?"

"It has too much water."

"How do you guess at that?"

"I don't guess at it; I *see* it and *feel* it."

"You see it! Oh! Oh, doctor!"

"Yes, truly—I see it in your pale lip and cheek; I see it in your hurried breathing when you walk up stairs; I feel it in your pulse at one hundred and forty for rising sixteen feet upwards, on the stairs, whereas, while you sit still it is only seventy-two."

"Ah, doctor, you are in Greece again."

"No, my dear, not at all. It's all plain Yankee."

"It's Greek to me—nay, I fear it's gibberish."

"Stop a bit; let me tell you that those great men, Mr. Andral, Mr. Gavarret, Mr. Franz Simon and many others, have analyzed the blood over and over again, in all sorts of diseases, as well as in the healthy state; and they pretty nearly agree in this conclusion—that in one thousand grains of healthy blood of man, there are of

Water	790 grains
Disks	127 "
Albumen	80 "
Fibrin	3 "
	1000 grains.

This is either the truth, or so near it, that it is safely to be received as truth. But, if Moses is true, also, where he says, 'the blood thereof is the life thereof,' then, when in your blood the figures for the analysis stand thus,

Water	840 grains,
Disks	71 "
Albumen	80 "
Fibrin	9 "
	1000 grains—

it must be clear that, in as far as the blood thereof is the life thereof,

the life is weakened, for the blood is weakened, and that's the fact as to you, my darling Helen."

"Why, what in the world has come over me, to put my blood so out of order?"

"That's a question I cannot exactly answer now—perhaps I can by-and-by. For the present, let it suffice to say that your Endangium is out of order, and consequently fails to do its duty in perfecting those materials for the manufacture of the blood that are poured within its walls."

"But, doctor! I have always learned that the blood is made out of our food."

"Yes, truly, so it is; yet the blood is never blood when separated from the presence and contact of the Endangium. Before that contact is made, it is first chyme and next chyle, not blood. Very soon, nay almost immediately after it is poured into the vessels, it becomes perfect blood, provided the Endangium be perfect. If it is drawn out of the vessels it ceases to be blood and becomes a clot, surrounded with water or serum. You call it blood, but I say no; it is not blood, it is coagulated blood, which is a very different affair. Many of the doctors deny this to be true, and they say that I am a theorist, and all that. I am sorry for them, and I wish them better informed, as I am sure their successors will be. Now, my dear patient, I verily believe your Endangium is weak and pale, and that it will never be right again until you restore its force by air and exercise, and proper training. Let me tell you something about training."

"Very well, doctor, go on—I'll listen."

"Such things are scarce fit for ears polite—but for the sake of the illustration, permit me to say, that there was lately a famous English pugilist, or prize-fighter, named Thomas Crib. He was as bold as a lion, or even our General Taylor. For the sake of an agreeable pass-time, his friends and he, too, laid large bets that he could, on a day fixed, beat an immense negro, called Molyneaux, in a pugilistic encounter; and so Tom was handed over to the celebrated Col. Barclay, of Uri, in Scotland, to be trained for the fight. When he came under the colonel's guidance he was a great fatty sort of a fellow, who could not run a hundred yards without getting out of breath. He had drunk, I suppose, quantities of beer and brandy, and had lived rather a heedless sort of life, so that his blood was out of order and his flesh not so hard and solid as the Prince of Denmark's—which, if you remember, would not melt, though his royal highness was so anxious that it should. Tom Crib's would 'melt, resolve, and thaw into a dew;' and if it would, he was not fit to encounter the gigantic blackamoor. Well, Col. Barclay gave him some

doses of medicine, made him perspire, regulated his diet by weight and measure, made him walk, pitch the bar, run, and so forth, according to a prescribed rule of training, and the end was, that in about ninety days Tom could run a mile up a Highland hill and stand upon the top without drawing a long breath. In short, he was so thoroughly trained, that is to say, brought into such a condition of health and strength, that, with the greatest unconcern, he encountered and easily overthrew his blackamoor adversary. Pierce Egan's account of it is very curious.

"The moral of this history is a very good moral indeed—it is that every sick person does not want a doctor, and that you, my dear, do want a trainer; and if you had one, it would not be long before you could go up stairs beginning at seventy-two and ending at seventy-three or seventy-five pulses instead of one hundred and forty."

"Well, doctor, can't you put me in a way of this training?"

"Yes, I can; but I can't do it like Col. Barclay. I only wish that, instead of having a Smithsonian Institution to buy old musty volumes with, we had a real Barclay College to save the health and lives of half the nice young ladies in the land. Talking of musty old books, what old book is that on the pier table?"

"Oh, I believe it is some horrid Latin thing that papa picked up at auction last night; and, would you believe it, he thinks he has got quite a treasure in it. He is always buying such old things."

"So, indeed, he has. Why, it's a Fifteener! a copy of Seneca printed at Venice by Bernadine de Coris of Cremona, in 1492. Bless me, a real beautiful Fifteener! Why, that prince of bibliomanes, the Rev. Dr. Thomas Frognall Dibdin himself, or even the Most Noble, the Earl of Althorpe, would feel lucky to get such a precious bibliographical morceau into the catalogue of the Aedes Althorpianæ; and what admirable preservation! Look, child! this ink is as black, and as delightfully clean put on, as if Lea and Blanchard themselves had printed it with the Exploring Expedition press but yesterday. Oh, what a delicious old treasure of a book!

"See here, Miss Helen, here is Seneca's fifteenth letter of the second book, to Lucilius; and I find it has a passage about you. But you will read it yourself, won't you?"

"What! I read such an old pagan as that, and in those horrid types, and that incomprehensible lingo, which, thank Heaven, I do not understand, nor don't wish to—nor Dutch neither."

"Ah! what a pity that you ladies like nothing but novels and poetry!

"Well, then, Seneca, for I must tell you of it, is speaking in this letter to Lucilius about the necessity of health as a means of happiness and activity of the mind, as well as of accuracy in its operations.

Seneca thinks that to be wise is to be well; for if, says he, we be not wise, the mind is sick, no matter what may be the amount of the bodily strength; for such strength is like that of a raving madman, governed by no fixed principle. Hence, he says, our chiefest design ought to be to keep the mind in health; and the next care should be to keep the body in health, &c. Then Seneca goes on to say, that it is very foolish and ridiculous to act, as many persons of his time were used to do—namely, pass their whole time in exercises calculated to strengthen the arms, and neck and sides; because, the very best school of gymnastics will never be able to make a man either as strong or as heavy as an ox. Please to hear his Latin:—

"Stulta est enim mi Lucili, et minime conveniens litterato viro, occupatio exercendi lacertos et dilatandi cervicem ac latera firmandi; cum tibi fæliciter sagina cesserit, et thori creverint, nec vires unquam opimi bovis nec pondus æquabis."

"Why, doctor, what has all that to do with me?"

"Name o' sense, it has this to do with you, child! it clearly shows that in Seneca's time, people did devote some portion of every day to the conservation of the health. And the good old man finds fault with them for carrying their care over it *too* far. I am very sure that the old Romans and the Greeks before them, were much wiser than the English, the French, the Germans, or the Anglo-Americans, in respect to their care over their persons. They did devote much time—many of them, as Seneca says, too much, to the study and practice of those exercises, baths, dresses, modes of diet, &c., that kept them like so many Tom Cribs, in a constant training. And, in fact, the Greek Phalanx was in consequence irresistible and irreversible; and a Roman Legion thought no more of a cloud of Persian cavalry, or Dacian spear-men, than Rough and Ready and Gen. Scott did of the poor Peons of Mexico. The gymnastic usages and habits of the Romans enabled them by strength and activity to conquer the world; indeed, they were a set of complete Tom Cribs, who went all about knocking the rest of the world into the middle of next week. And, in fact, they got much glory and a great deal of money and lands to locate in as we say; but there's this other melancholy fact along side of it, that there's not a valley nor a hill, nor a river or marsh, from the Tanais to Gibraltar, nor from London to the falls of the Nile, that has not drunk their blood, and seen their skulls grinning at the cold moon, and their bones mouldering under the night dew, for the wide world is white with their bones. It makes me melancholy to think about those fine young farmer fellows like Tityrus and Melibœus, dying for empty honor so far from home; leaving their Galateas and Lalages to weep in hopeless, hapless maidenhood—or wait for some other lover

—for I am for one, disposed to ask with old Jack in the play, can honor set a leg? No: or heal the grief of a wound? No."

"How you do talk, doctor!"

"Well, my dear, I hope it's not disagreeable to you?"

"Oh no, far from it. Yet I confess myself stone blind as to any concern I have with Tityrus or Melibœus, or Lalage and Galatea; what pretty names, though!"

"Yes, indeed! some of their names are far prettier than our Sally's and Patty's and Betty's: but you have this concern, namely; that you live in the nineteenth century, and they before the year one—and yet you don't know half so well how to take care of your bodily health, as those old time people did; for the world in some respects of useful knowledge has lost ground, not gained it. It makes railroads to break people's arms and legs with, and steamboats to blow them up; but society is not half so elegant and grand as it was in their great day. Now you who are listening to my voice cannot run fifty yards upon a level without panting for breath, and beating your little heart like a pigeon fluttering; but Galatea could run, or even fly."

"Who was Galatea?"

"She was the maiden that threw an apple slily at her sweetheart's head, and then flew to hide among the young willows, but took care to let him have a glimpse of her before she disappeared: does not Virgil say of her, *fugit ad salices?* she could fly; but you can't go up stairs without making your pulse simulate that of a person in a scarlet fever. And it's your own fault, and nothing else, for you have not walked 365 miles in the entire year 1846. Why, bless your soul! a bee thinks nothing of going to Farmer Robinson's buckwheat field, six miles off, and back again half a dozen times a day merely for a little honey and wax. And Sukey, the cow, would starve to death in the richest grass lot were she to lie down or even stand still all day. Sukey must walk about to pick up the material for her cud. You lounge on the sofa, and your maid brings it to you on a silver salver! Everything must move, Helen. I verily believe, that the mute cabbages would die, if it were not for the exercise that the wind gives them; and surely, dear Helen, if there be a real pleasure in this world, it must be that which is enjoyed by a cornfield, when the zephyrs dance adown the wheat ears, and they courtesy to them and wave them along, bowing their heads upon their slender and graceful stems as the Favonians pass by. Don't you think the bread is sweeter and whiter for every motion that the winds have communicated to the dancing grain? There's the poor potato! see how sick it has got! and all from being shut up like Miss Helen, in one small hole for so many years. The whole genus solanum batatas has been sick for

want of exercise. Are not our houses our holes, to which we retire like the foxes in the Testament? You say you cannot walk, you cannot enjoy the church services to edification, because it hurts your back and sides, and limbs, and you are ready to drop. I was going to say, but shall not, hang your back! forget your back, and your back will forget you."

"My dear doctor, talking is not going to cure my back and make me well again."

"I do not say it will; but it may teach you in your own interest. At all events, this I can most solemnly assure you of. 1st. That you are not ill; that you only have a thin watery blood. 2d. That your membrana vasorum communis which is your blood-membrane, your hæmatosic tissue, is feeble. 3d. That your pains are what we call nerve pain, *neuralgia*, not pains from inflammation; and that they carry in them no element of death and ruin, loss of beauty, or loss of lovers. 4th. That when your blood shall stand at the figures 3, 80, 127, 790, your weakness will be gone; your nerve streams will flow from the brain and spine-cord steadily, at the impulse of the vegetative force, or at the command of your *Free* will; that the apple shall bloom on your cheek again and the cherry pout on your lip, and the waltz and the cachuca shall not fatigue you; and that all the ghastly clouds of blue imps that love to hover over and about you, to vex and torment you, will disappear in the radiance of a face beaming with health and hope, and happiness, 'just as the sun licks up each sneaking star,' as Tom Moore says. Don't you know what happens to the celery, my dear?"

"Why, what?"

"This happens to it: it grows up a great green rank stalk, hard enough to make a whip-handle; very disagreeable, tough and fibrous to the taste. Nobody likes it, for it is too strong, too healthy, because having been waved in the wind for its exercise, and shone on by the sun, it got both color and strength. Now Adam the gardener comes into his garden, and gazing round he sees this great coarse brute of a celery-stalk. He says, 'So, Mr. Clodhopper, thou coarse fellow thou!—dost think thou art fit to be admitted to the salad-dish of an aristocratic gourmande? Shade of Brillat!—no, siree! I shall soon make a veal of thee. I shall weaken thee, sir, and take that horrid green cheek out of thee, sir, and make thee so delicate, sir, that even Miss Helen——can delight in and approve thee, sir'—and so Adam the Gardener makes a deep trench and piles the earth up about him almost to the top of his stalk, and effectually quiets all motion in him: in fact, he splints him, as we doctors say, and puts him in the dark: and, even more, the

sun's life-giving beams no longer reach his buried stem. He grows weak, pale, watery, tender; and when he is blanched like you, Mr. Gardener digs him up for your salad; and the whiter and weaker and tenderer he is, so much more does he ask for him in the market, and so much more do you prize him. A stalk of blanched celery may be compared to Miss Helen. It has not walked its mile a day, and it has been shut up in its room devoid of the fresh breath of Heaven, and cut off from the life-giving beam of the glorious god of light. You are etiolated, dear patient; look in the pier-glass, and see your cheek! You are etiolated like a celery, and that is the reason you have pain. Your pain is from weakness, and nothing else."

"Can't you give me some medicine to cure my pain though, doctor?"

"Oh yes, certainly; nothing so easy; take laudanum."

"I hate laudanum."

"I'm glad of it. So do I. But laudanum will put a stop to the pain."

"Yes; but I fear it won't cure me."

"Certainly not. On the contrary, it will be sure to make you worse in the long run; so will almost all other kinds of physic. But if you will have physic to cure the pain, why, take the pernicious laudanum, and then you will behave like a spendthrift who has not come to his estate, but wants money; so he pays the usurer two and a half per cent. a month for a loan, and when his grandmother dies and leaves him all her property, it must be paid over to the shaver; for the estate comes exactly to the principal and interest of his borrowings. This is just a fair specification of what you will come to, if you will take opium to cure your painful sensations. But come, dear, I shall now be serious, and give you a prescription. Let's see; yes! Take—"

"Take what, Doctor?"

"Take courage, and be well. Take faith but as a grain of mustard-seed to believe what an experienced man says, who can have no interest to deceive you; and believe that he knows what he says, when he tells you that a trained health is the health you should seek for."

"But the pain is intolerable. Is not pain an evil under the sun, and a great evil too?"

"Yes, that's very true; and to see such a sweet young lady in pain might break anybody's heart, save a doctor's. But I adjure you! Don't regard the pain; take the more courage, the greater the pain; for you will have pain. Be well assured that you can, within three or six weeks, be in the regular habit of walking six miles a day, which will exceed two thousand miles per annum; and that, when you shall have

reached your six miles a day, you will be well again; for what health and strength shall a lady require beyond that which enables her to walk two thousand miles a year, in the beautiful sunlight, over this goodly earth that God has given her for her flower-garden!"

"Yes, doctor, that's very fine—very fine, indeed, and vastly poetical; but to walk, I repeat, kills me, and I am afraid that my disease will be rendered incurable."

"Tilly-vally, tilly-vally, Miss Helen, you know nothing about it."

"How can you say I know nothing about it, Doctor M.? Do I not know whether I have a horrid pain or not?"

"Yes, I admit you know that much; but this you do not know, or rather you will not admit, *videlicet*, that if you walk at a good pace for twenty minutes, you will find yourself a mile from home; and in twenty other minutes may be at your door again, which will make two good miles for you. Suppose you breakfast at 7 A. M., and say, now I am to walk smartly forty minutes by the watch. You may be at your needle, or book, or piano, by a quarter to 8 o'clock. Suppose at 2 P. M. you get out for forty minutes; you may take your seat at the dinner-table, *en regle* as to your dress, at 3 o'clock, and that will make four miles for you. Another walk of twenty minutes out and twenty minutes home, in the evening, will complete your six miles a day—and that is enough for any lady. Do you ask me why I would give you so much trouble? I tell you that your hæmatosic tissue is not in health, nor will you be in health until it shall be re-established by the sun, which is indispensable for a healthy life; by the oxygen of the air, without which everything dies; by a frequent and strong induction of nerve-power into all your organs, your muscles, your lungs—your heart—your hæmatosic tissues—everywhere. These are the remedies for such maladies as yours. You must diet aright—you must dress aright, you must bathe aright, and *move;* and lastly, you must take some pills not bigger than the head of a diaper-pin, to be made of Monsieur Quèvenne's metallic iron. I shall give you this prescription, not as a drug or as a medicine, but as an element of your body, without a certain abundance of which, neither you, nor any mammiferous creature, nor bird, nor creeping thing can live. I verily believe, that even a monas crepusculum would die but for his iron. You ought to have found the dose in your bread and butter, your rice, your salad, and your chicken, daily, these two and a half years past. It was there, but you did not get it. I shall give it to you, and shall present it daily to your organs, and you shall see what the effect will be. Here, give me a scrap of paper. I shall begin the prescription in German, and end it in English; and so you see my caption is

"*Mit huelfe Gottes.*

"Take of metallic iron, one hundred grains.

"Pure honey, a sufficient quantity.

"Make a pilular mass to be divided into fifty pills, and direct, for Miss Helen Blanque. To take one pill for a dose immediately after each breakfast, dinner, and supper. C. D. M.

"Now you must take this iron regularly, and exactly, and for a long time. Eat plenty of bread and meat, and take one or two glasses of good Bordeaux wine at your dinner; but it should be diluted with water. Rise early, and go to bed early. Think, what is true, that you have made yourself sick by a silly indulgence upon some slight maladive sensation, which will disappear, when you shall again learn to act like a reasonable creature, as to the care of your health; and I will answer for it, that you will soon be found to make no more complaints.

"You have often heard of the general faith and belief in quinia as a cure of ague and fever, hav'n't you?"

"Oh, yes. I know that is what everybody takes, and what all the world believe in."

"Very well; I believe in it, too, implicitly; but I have quite as strong a belief in the power of this medicine to cure your hæmatosic membrane, to enrich your blood by bringing it up to its proper crasis, so that its figures shall stand respectively, at 790, 127, 80, 3; and that is all you want; for when you have that, and are totally destitute of any organic lesion whatsoever, your rich and valid blood shall disengage by its oxygen, a full nerve-power in the brain—which, exciting life motions in due intensity everywhere within your economy, you shall in vain try to find the point so big as a pin, that is not in consummate order and health and perfection; and when that shall come to be the case, when the red tint of the butter pear shall glow on your cheek again, and the cherry turn pale in comparison with your lips, you shall seem as charming as you really are, and I will say, after good old Ambrose Paré, 'I cured her, and God healed her.'

"And, now, I *must* bid you good morning; for it is time to visit some persons who are really sick, which, thank Heaven, you are not."

"Stop, stop, doctor, a word before you go. I assure you that for more than two years I have been most unhappy, nay, most wretched, in the contemplation of a present and a prospective ill-health. Nothing has pleased me—nothing given me the hope of true enjoyment. I have been even sensible that I was daily losing a naturally good and placable temper; and becoming what a lady should never become, unamiable, *acâriatre, tracasseuse!* I believe that I have been in some

sense like Lady Macbeth—not in the wickedness, I hope, but in the phantasy: there is a pretty Shakspeare lying on the table; do open it, doctor, at Act V. Scene iv., and read it for me."

Macbeth.—How does your patient, doctor?
Doctor. Not so *sick*, my lord,
As she is troubled with thick-coming fancies,
That keep her from her rest.
M. Cure her of that:
Canst thou not minister to a mind diseased;
Pluck from the memory a rooted sorrow;
Raze out the written troubles of the brain;
And, with some sweet oblivious antidote,
Cleanse the stuff'd bosom of that perilous stuff,
Which weighs upon the heart?
D. *Therein the patient*
Must minister to himself.
M.—Throw physic to the dogs, I'll none of it:—
Come, put mine armor on.—

"There, Miss Helen—there is your quotation. I hope you will minister to yourself, and follow the last line, 'Come, put mine armor on.'"

"Depend upon it, doctor, I shall try to follow your advice. I cannot say that the conversation I have had with you has enabled me to understand as clearly as I think you do, what ails me, and what I require for the re-establishment of my lost health and spirits. Perhaps, indeed, a long preliminary study is requisite to the understanding of those points, that you characterize by such very hard words, as en—en—end-angium, was it not? and hæmatosis? yes, hematosis, and other such gibberish. But, admitting that I have not learned anatomy and physiology from your discourse, I at least have obtained some glimpses of the nature of my indisposition, and feel that from this hour forth I shall be better, for I have found courage and confidence. I am convinced that the game is in my own hands. I know it will be a hard game to play, but I also know that '*le jeu vaut bien la chandelle*,' and be assured I am about to play it well. In fact, you have cured me already by opening my eyes and cleansing my bosom of that perilous stuff. I thank you heartily for this visit. My father, who is rich, will know how to send you a good fee for it, for he loves me—you know I am his only child. I thank you the more heartily, because you have not even once made me *poke* out my tongue; and because, though a doctor, you have neither cut me with a lancet, blistered me like a Miss Marsyas, nor poisoned me with that detestable calomel, and oh!-ugh! castor-oil! So, now, good-bye, doctor; come and see me again. I feel that I shall be soon well and happy."

Such was my conversation with Miss Helen Blanque. In twenty days, I met her as beautiful as a Houri; with a gait like Hygiea, and a cheek that might put Euphrosyne or Hebe to "a palpable and open shame." C. D. M.

LETTER XIII.

Gentlemen: In my twelfth letter, I spoke much at large, and perhaps in a too random manner, on the subject of prolapsions of the womb, and was led away by the train of my thoughts, to contemplate the state of a young woman complaining of aches and pains, and inabilities, that are the usual accompaniments or simulations of uterine displacements. I said that many painful, inconvenient, and annoying sensations are produced in the female pelvis, from very different causes, which, in their operation on the sensitive system, are the same, whatever may be the difference of their true causes. I also said that, for the diagnosis of many cases of such complaints, it is not indispensable to proceed to the taxis as the sole means of coming at a sufficiently clear understanding of the disorder; and that, while I would rigorously insist upon the right of using all necessary and proper means to clear up the obscurities and difficulties that embarrass the decision and action of the practitioner, I should feel myself held conscientiously to abstain from any unnecessary inquiries, or, rather, modes of inquiry. I think that a diagnosis by exclusion will in many diseases lead to the discovery of the truth—that is to say, a physician ought to be able to judge the rate of all the accessible functions of the body, and by comparing their actual state with a standard of health that he knows how to erect in his mind, he ought to be able to say this and this and this are right; and so through the great catalogue—excluding all the healthy ones—but this and that are wrong—and they are wrong—in this or that especial way. Where he cannot decide in what especial way the deviation of the function takes place—then let him carry his explorations to the furthest proper extent. In my conversation with Miss Helen Blanque, and in the observations that I made in regard to her gestures, her mode of sitting down, and of rising up; of walking; the tone of her voice; her respiration, her complexion, her style of dressing, her physiognomical expression; her sentiments and trains of thought, &c. &c., I was quite convinced that, although she was affected with pains, aches, and inabilities, like those of a patient laboring under prolapsus, I could

very clearly trace them to faulty innervations, arising from deficient crasis of the blood; and I concluded that, by exposing her to exercise; to the bath: by a better diet and drinks; by sending her into the air, the sunlight; by insisting upon her effecting those modifications in development that can be brought about by a course of training, I should cure her of her complaints, without resorting to the shocking *ultima ratio*—the exploratory taxis, or the still more detestable resort of the pessarium. I also ordered for her a preparation of iron, which is probably the most efficacious of all the ferruginous articles, and has the additional good property of being quite destitute both of taste and odour.

I cannot say that my hypothetical conversation with Miss Helen was able to make *her* clearly acquainted with my views of her hygienic and therapeutical wants; but I flatter myself, I may have succeeded in fulfilling my sole intention, which was, by means of that dialogue, to recall to your memory some of the many arguments and rationales I had the honor to present to you last winter, and I hope they disclosed to you, if not to Miss H. herself, the precise views that actuate me in my professional ministry over many such cases. How many times have I spoken to you in that way! Some of the reviewers, who have done me the honor to notice these letters, have charged me with a want of delicacy in speaking so freely to a young lady upon these very nice subjects—and while I felt sorry to be deemed a person indelicate in my professional relations to the young ladies, I indulged the hope that my reviewer would perhaps do me the favor to read a second time my twelfth letter, and that he would learn that Miss Helen Blanque's name is really **** ******, and that he was scolding me for talking aloud to a shadow, in order that you might overhear our putative conversation. I beg my reviewer to let us know in what most delicate way we are hereafter to ascertain the state of our young patients' bowels, and the precise relations between the aqueous and solid materials that are eliminated by that nameless organ that is supplied with the material of elimination by the arteries ycleped emulgents. To be a doctor is, alas, to go behind the curtain of humanity, and one, insensibly, I believe, acquires the habit of calling a spade a spade.

An English reviewer has also called me an obstetrical dandy (at my age, and with twenty grandchildren!) for speaking to the shadowy lady as my dear Helen, and my charming patient; and I must say that I flatter myself he was in the predicament of the Newfoundland dog that jumped off the platform to save a drowning soldier in the panorama of the battle of Lodi. He saw my dear patient and heard my tender expostulations with her.

But enough of the reviewer. *Revenons à nos moutons.*

Whether the views I have presented be just or not; whether I have been able fully to disclose my thought or not, this is very certain, namely, that I have many many times held conversation like that, with young people whom I found depressed, and indeed almost broken-hearted, under a painful idea that they were ruined in body by a disease which, after tormenting them for a number of years, was destined to bring them to an untimely grave. It is a great matter, in the management of such a case, to clear the mind of the pernicious impression, for everybody knows (look again at my quotation from Seneca), that the *mens sana in corpore sano* is an indispensable condition of happiness and health. I intend not to deny that a good man may be calm under physical suffering, the most extreme. Nay! I have seen a fine fellow, dying on the rack of a traumatic tetanus, and rejoicing in his spasm, and smiling forth from amidst the most horrible cramps, even of his face; and glorying in an approaching death that was to enlarge his soul for its instant flight to Heaven. I have seen this, and more than this; for I have seen greater courage and peace amidst protracted and hopeless pain; hopeless at least, as to earthly hope. It is true, nevertheless, that a thought can kill, and a conviction utterly destroy.

The *morale* of his patient has as much to do with the Doctor's cure as the calomel, the senna, or the cinchona.

If a girl, in coming up to the age of puberty, is badly managed; if her digestive organs are suffered to become permanently deranged under a vicious course of feeding; her nervous system to be badly or imperfectly developed by vicious habits in education, in exercise, in sleeping and waking, in unnatural attitudes, in the consumption of the nervous force in studies at school and at home; it is reasonably to be expected that the whole future life will take a color of feebleness and impressionability from the character of the constitution acquired at the close, and true completion of the puberic age.

Such a person could hardly be expected to execute all the great and trying periodical functions included in the comprehensive word menstruation, without experiencing certain maladive sensations, like those of Miss Helen, which, though simulative of, are wholly independent of prolapsus or other uterine deviation. Nor should a physician indulge the expectation of curing such a case, save by means of a treatment adapted to the wants, not of the reproductive tissues alone, but of the entire constitution of the female, which has that vice in it that no therapeutical alterative can cure, but which can be cast out wholly by a change in the manner or hygiene of one's life.

One may safely venture, in general, to rely upon the evidence of

one's senses; and we have only to look about us, to discover the differences as to physical power, durability, and perfection between a languishing, impressionable city miss, lapped in luxury and indulgence from the cradle upwards, and a buxom rosy milkmaid who drains the udder for a dozen cows at three A. M., drives her own horse and cart five or six miles to market, and returns to breakfast at home, after having distributed to the lazy citizens the precious contents of her milk-pails.

But the languid, perceptive, exquisite citadine is, of a truth, the same creature as the country girl; and you know very well, that to exchange positions would, in the course of a year or more, be to exchange characters—the languor of the one for the active vigor of the other—to plant roses on the pale cheek of the elegante, while the lily would spring where the jocund health of the milk-maid was too boisterous for its white blossoms before. Is not this plain fact? and is it not common sense too? Yet, is it not also true that we doctors frequently forget to look to nature in our queries; peering only into our stupid books; following a theory instead of following only truth and our senses; and imitating the painter, who, instead of forming his landscapes in the open fields, is condemned to imagine the waning distance, the winding river, the babbling brook, the umbrageous woods and clear transparent air; and the form, port, and hues of men and animals seen on his canvas only by the yellow light of a lamp in the dark narrow limits of a studio, instead of filling his artistical imagination with perfectionings, if that were possible, of the beauties and truth of nature as seen under the true lights and shadows of the open day! Truly, Dr. Forbes is right, when he invocates a Young Physic. We want a young Physic, a vigorous, active, healthful youth, born, indeed, of the ancient Gamaliels, but nursed and brought up in the lap and bosom of Nature herself; the heir and successor, in this modern age, of the old time-worn Physic of his forefathers.

I told Miss Helen that if any confidence might justly be had in the power of sulphate of quinia to cure an ague, I had equal trust in the power of chalybeates to cure the diseases of the blood, describable under the name of Anæmia; and I accordingly gave her portions of metallic iron.

Allow me to say a few words more on this subject.

Quênesville is a Paris *pharmacien*, who prepares the metallic iron brought into use by Mons. Quévenne, the druggist at La Pitié. M. Quênesville is the successor of Caventou & Pelletier, so famous, some years ago as chemists, for the preparation of very pure and rare chemical remedies. He places in a porcelain tube, a quantity of protoxide

of iron. The tube passes through a furnace heated to redness. He disengages hydrogen and conducts it into one end of the tube, the other being left open. The hydrogen unites with the oxygen of the iron and flies off as water; leaving the metal revived, and existing in shining microscopic particles of pure iron, impalpably fine. This pure powder of the metal unites with any of the acids of the gastric solutions, and is the most efficient of the chalybeates that I have met with. I believe that two grains are enough, if taken on a full stomach, that is to say, immediately after each meal. When made into pills with honey, it is both tasteless and inodorous, and incapable of oxidation, if kept dry.

I conceive that we have not, and that we cannot ever reasonably expect to have any very clear notions as to the methodus operandi, as it is called, of any medicine. Who can explain the cathartic power of jalap, as contradistinguished from the emetic force attendant upon the chemical constitution of the calicoca ipecacuanha, or the tart. of antimony and potash? We are well acquainted with the facts, the phenomena; and we can count upon our power to make them manifest under our prescriptions; yet to say why tartar emetic shall produce vomiting, while sulphate of magnesia shall have the effect of a purgative, is beyond the power of the human mind. There is something metaphysical, and not purely physical in the case, and we cannot seize upon the metaphysical element, because we cannot go up to the fountain-head to know truly what Life is; which can only be fully known to the All-wise mind. The differences in the two operations are differences of perceptivity in the organs; but perceptivity is a metaphysical, and not a purely physical force.

No man can know, then, more of the power of medicines than the facts of their force made manifest in their operations. I do not pretend to know why it is that iron dissipates, like a *coup de théatre*, the whole train of evils concomitant on the state which I call Anæmia, or rather hydræmia; but this I do know, or at least I think I know it, that when a person laboring under hydræmia is submitted to my control, one who has no lesion that I can detect, of the great organisms of circulation, oxygenation, and gastro-intestinal digestion, I look forward with an undoubting confidence to the cure, which I expect to see begun within a few days, and completed within some twenty-one days or thereabouts. My feminine predecessor, the famous Louise Bourgeois, used iron, which she prepared when taking care of the belles and petites maitresses of the Queen, Mary de Medicis, and she affirmed that in such cases as we are talking of, the time requisite for the cure was but a *quinze jours* or a single fortnight.

I do not consider myself as credulous for believing that iron has a

special power to invigorate the tissues composing the hæmatosic membrane, the membrana vasorum communis; certainly not more so than ten thousand American physicians, who confidently administer five or twenty grains of calomel with the utmost certainty of exciting the liver into greater or more healthy activity; squills to excite the mucous follicles of the bronchi; nitre to arouse the kidney; or belladonna to stimulate the skin; and strychnia to wake up again the torpid muscle of a paralytic leg or arm. In methodus operandi of medicines and drugs, all our cognitions are purely empirical—the results of the experience and observations made by mankind in a series of centuries, in the whole

Innumerabilis annorum series, et fuga temporum.

Do you ask a further explanation of the confident tone with which I speak of health to be restored by restoring the crasis of the blood?

Why what else is health if that be not it which depends on perfect solids and perfect fluids? What is the blood? What its use, destination or design, in the body? It is the *chaire coulante* (the fluid flesh) of Bordeu. When the chaire coulante comes to be fixed, it is the *chaire solide*—but the blood is more than that, it has a higher function still; it is the direct agent in extricating the life-flash; the nerve force; the excito-motive power; in it is the life itself.

Dr. L. Cerise, in his prize paper, in the *Memoirs of the Royal Academy of Medicine*, on "Sur-Excitement of the Nervous System," says, at page 294, vol. 9th: "Every instance of nervous excitation is therefore a result of the concurrence of a sanguine with a nervous element. Hence every sample of excitation may be represented by a product formed by the contact of these two elements." Dr. Cerise proposes to denominate this product, this result, by the word neurosity. I cite Dr. Cerise's words, as I wish you to understand that I disagree with him in his opinion that the result is the product of contacts of blood and nerve matter. For I adhere to the opinion I have so often expressed to you that the product is the result of the contact of oxygen (of the blood) and nerve-matter. Black blood, blood without oxygen, cannot produce the result. There is no *neurosity* developed in true, complete asphyxia or cyanosis, though the brain be gorged full of blood, for that blood is black or venous.

The brain and nerve are the creature, the animal, the perceptive being. An animal demands two conditions of existence, to wit; the substance of nervous matter—neurine—and oxygen, whose contact and immiscence with it extricates the power. Give to the nervous mass oxygen, and the force is present; diminish the oxygen, and the force

is lessened; take away the oxygen wholly, and the force is gone—it is death.

But a watery and hydræmical blood cannot carry sufficient endowment of oxygen. None but a blood whose crasis is true—just—normal—can carry to the neurine the true, just, normal amount of oxygen, or extricate from the neurine by its action on it, the true, just, normal sum of innervative or excito-motive power. Such are my views. Such is my physiological explanation. Such are the motives that have led me, in my walks, to desire to cure the solids first, and then to find the fluids cured. The critics may say what they please as to my idea that the Endangium is the tissue chiefly in fault in the cases of idiopathic anæmia. I shall live and die in the convictions derived from my own perceptions. I am not, and none can be a freeman else.

No man can deny that the ENDANGIUM IS THE BLOODVESSELS. The muscular and elastic and fibrous coats of vessels are not the vessels, but only properties, adjuvants—protection for them. The blood is confined within and bounded by the Endangium, which is its delimitary membrane and its manufacturing apparatus.

To say that blood is made by oxygen is untrue, for all the oxygen of the universal atmosphere cannot make one drop of blood, of man or beast outside of its delimitary membrane, nor keep it so if it be but taken from the presence and power of that great and indispensable life-inducting organ. It appears to me an incomprehensible mystery that any physiologist reflecting for a moment on the life of the fœtus in utero, should not perceive that the Endangium is the blood-making tissue. In the fœtus there is no connection, nor even contact with the mother save through the placental tufts. All its ingesta come into it through the placenta; they all enter into its venous system, and when they have reached the interior of its body they touch nothing of its solids save the Endangium. Therefore the Endangium, as solid, contains the cause of the hæmatosis in the fœtus, and *à fortiori*, in the man. No man who accepts Weber's interpretation of the constitution of the placenta, can accuse me of heresy, and yet I am twitted with ignorance of Weber's views! Ignorance!

I am not a Solidist nor a Humoralist, but I am Eclectic, preferring the best and most rational theorems of both the schools. I shall make no further remarks in this letter, which perhaps, you will consider as sufficiently visionary, on the theory of hydræmical disorders, having been, perhaps, prematurely led to the foregoing ones by remembering the considerable number of persons who have recovered from symptoms and accusations or prolapsus without recourse to the usual remedies of prolapsus. I shall in a future letter enter into fuller statements of the

views I have long held on these topics, and which I have so often discussed in your hearing at the lecture-room. I beg you to understand that my hypothetical conversation detailed in the last letter, is not very different from many long conversations I have had, and shall have again with patients, situated as the imaginary patient, Miss Helen Blanque was. Farewell. C. D. M.

LETTER XIV.

Gentlemen: I am still to speak of prolapsions: I mean not the simulative descents of the womb, but those clearly decided cases of malady that proceed from weakness and relaxation of the supporting tissues, and involve the patient in distress and inconveniences arising from the traction and distortion of important nerves, and bundles, and filaments of nerves, and from pressure upon points unaccustomed to it and unsuitable for it.

In these cases the remedy is chiefly mechanical; it consists in adjusting beneath the descended womb an instrument which lifts it up to its proper height or level within the pelvis, and maintains it in that natural situation until the tone, the strength of the tissues can be restored by time and by remedies.

The comfort derivable from this method of support, is scarcely describable. A woman who for months had been unable to walk, or even to stand without an ineffable sense of weakness and pain, moves freely and spontaneously after the adjustment; and in short, is as greatly relieved as is the man who has his humerus reposited after a dislocation. To show you how great that relief is, let me tell you that I was called to a very pious citizen, who dislocated his humerus into the axilla, and who, when I arrived, was holding the right arm in an elevated position, by means of the left hand, with which he supported it; as the least descent of the elbow gave him exquisite pain. I took hold of the limb, made the extension in the proper direction, and then depressing the elbow, reposited the head of the bone in the glenoid cavity. As the orbicular head took its place, he ejaculated, with the utmost unction, "Bless the Lord, O my soul! and all that is within me, bless and magnify his holy name!" He had good occasion to ejaculate his thankfulness, for he passed from agony into perfect calm. It is true I have never heard a female make such an ejaculation upon a repositio uteri—

but I doubt not the relief has many times been almost as great in the one case as in the other.

Pessaries are as various as the ingenuity of the doctors and sometimes of the patient herself. Most of those used here are of blown glass, and consist of globes from an inch and a half to two and a half inches in diameter, or else of concavo-convex disks, about the same size.

The best of our pessaries, however, have been for many years constructed by Mr. Joseph Warner, gold and silversmith, No. 16 Merchant Street, Philadelphia, who since his death has been succeeded by Mr. John S. Warner, in the same establishment.

Mr. Warner is an admirable workman, and produces articles of this sort of the most perfect construction. The material is hammered silver, gilt, either by fire gilding, or by the galvanic process.

Silver is preferred in the manufacture, on account of its hardness, which allows it to be reduced to the thickness of letter-paper, still retaining its firmness, which could not be expected of so thin a plate of gold. While it is lighter, it is also less costly than gold. A globe of two inches in diameter, thus formed, weighs not more than two scruples, and when polished and covered with a sufficient coating of gold, possesses properties preferable in practice to one of pure gold, inasmuch as the lighter an instrument of this kind is, the less objectionable is it. It would be difficult to make such an instrument that should be lighter than one of Warner's globes. I have often told him and his workmen, that if they could make one as light as a soap-bubble, it would be the very perfection of the instrument. I have heard of doctors who made them of lead—one might as well use a brickbat or paving-stone. The very thought of such a thing is fit to give one a fit of tenesmus. Mr. Warner's silver globes gilt, are perhaps as nearly perfect as they shall ever be. The same material is employed in the fabrication of the discus, and the ring; the elytroid, and the horseshoe pessary, as well as the olive of the stem pessary; from out of the whole great number and variety of which you can select, according to your opinion of the indication. Mr. Warner could readily supply your wants in his line, through the various Express companies established here for parcels-delivery. Should you have occasion, therefore, to use any of his instruments, your letters, with description of the kind of instrument required, would probably meet his prompt attention. It would be only necessary to order a globe pessary of one and three-quarter inch diameter, or two inches, or two and one-eighth, &c., or a flat pessary, or a ring, &c. There are few towns in the United States that are not reached, almost with the rapidity of the mail, by the Express lines of Adams & Co., Harnden & Co., &c. &c.

The object to be gained in employing a pessary, is the elevation of the uterus to its proper level in the pelvis, and the maintaining of it in *sitû naturalî*. Many of my friends prefer the discus or the horseshoe, the ring, &c. The late Dr. Dewees, invariably, I believe, made use of the discus, commonly in this city called Dewees's pessary; and his deserved reputation as a practitioner gives to the instrument of his choice a great vogue, so that multitudes of them are made and sold.

The equally distinguished Professor, the late Dr. Physick, who seemed to me, in his lifetime, almost never to be in error in any surgical or medical indication, as invariably preferred the globe, very generally known as Dr. Physick's globe pessary. In a conversation I had with him, some years before his lamented death (such men ever die too soon), he told me, that while he was dresser at Guy's Hospital, under Mr. John Hunter, he had charge of a female under prolapsus, who was treated by a discus pessary, having the usual perforation; that a portion of the os uteri had slowly engaged itself, and become strangulated in the aperture, so that he had difficulty in extricating it; an accident which I also have witnessed more than once. As he would not venture to expose the woman to a second strangulation from the same ill-constructed pessary, and as an old billiard-ball that had been some time in the ward was at hand, he adjusted it beneath the uterus. The new application succeeded so admirably in sustaining the organ, that the doctor ordered globes to be constructed, and we are, I believe, truly indebted to him for the beautiful and valuable resources thus placed in our reach. Such is my understanding of the history of the globe pessary of Dr. Physick.

As to my own preferences in the matter of pessaries, I have only to say, that whatever may keep the womb at its due height without irritating it, or incommoding the other organs and textures implicated in the descent, is a good pessary; but I deem the globe the most perfect and most suitable for the ordinary simple cases. An instrument of two inches, pressed upwards to the uterine extremity of the vagina, lifts the womb high enough; higher in fact than the position occupied by it in eight out of ten of those women who have had a child, and that is high enough. It is kept up by the double and consentaneous actions of the sphincter vaginæ muscle, and the levator ani. It has no angles, no sides; it cannot be displaced, save by being ejected. Its pressure is uniform over its whole superficies, save where its lower segment looks down the tube of the vagina. This cannot be so truly said of any other instrument, if we except, perhaps, the gum-elastic bottle, used and recommended by Dr. Hervez de Chegoin, in his paper in the *Mém. de l'Acad. Roy. de Méd.* The globe has a perfect polish, and an

unoxidizable surface. It may be worn a year or more without displacement, if required; and it has no aperture to admit of the collection of putrescible materials within it. It does not prevent the escape of the mucus of the uterus and vagina, nor of the menstrua; and, in short, is the least uncomfortable and most perfect of instruments. It is a true suspensory, as needful for the descended womb as the suspensor scroti for a hernia humoralis or orchitis. It is as neat and perfect in its kind, as Petit's tourniquet in its kind, and as indispensable for the cure. Dr. Physick used to tell us in his Lectures, that a man might as well attempt to improve the Bible as Petit's tourniquet; and I, after him, repeat, that you might as well attempt to improve Petit's tourniquet, as Physic's globe pessary. But you know I always have warned you to be *Nullius addictus in verba jurare magistri*, and so I say, judge of it for yourselves.

Can a man expect to cure a prolapsus by the use of the pessary? Yes, provided there be no loss of substance. A woman who in labor has lost the perineum by the effect of laceration or sloughing, may be held to have lost also all useful function of her levator ani, and there is no hope, therefore, of a permanent cure of the tendency in her to prolapsus; since, in fact, the perineum, the normal antagonist of the diaphragm and abdominal muscles, is taken away from her; giving to the phrenic antagonism alone supreme and unresisted power. Such a woman can expect to provide only an artificial antagonism, which you can always furnish her with, by means of the stem pessary, to be hereafter described. It will relieve, but nothing can cure her.

Those females, however, who labor under prolapsion from the mere descent of the vagina, arising from its relaxation or loss of tonicity, can be cured by the pessary. I take it for granted, that every living tissue has an inherent tendency to contract, and when that tendency is not carried out into execution, it is because something resists, antagonizes, prevents it from obeying its law. To support, then, a vagina at its normal elevation within the pelvis, is to take away the resisting antagonizing preventing cause, and to allow it, with time, to recover its normal density and solidity.

I mean not to say that this is always the sole thing needful to the cure; but I do suppose that it is in many instances the only chirurgical or medical process demanded, since the freedom from pain or inconvenience that follows the timely application of a proper pessary sets the woman free from the bondage of her symptoms, and enables her to take advantage of the restorative power of diet, air, exercise, bathing, travelling, and other hygiènic methods, the wise and prudent employment of which may be expected to repair the mischief of debility and relaxation,

not as to the vagina alone, but as to every part and parcel of her living system.

Where the woman's general health, however, is broken, and her great alimentary, respiratory, and circulatory functions overthrown, we should gather by careful inquiry and observation the indications of treatment, and pursue them to a subduction of the special evil or evils. A woman may have bad health from deranged action of the chylopoietic organs, requiring the exhibition of blue pill, taraxacum, alkalies, nitro-muriatic acid, eccoprotics, or even purgatives. She may have neuralgic or neuropathic affections springing from a vice in the hæmatosic tissues; from exaggerated vital sensibility of the heart, &c. In all these varieties of complaints, whose name is legion, let the especial sin be found out and eradicated. *Semper feriatur leo.*

The bitter tonics, bark, wine; the chalybeates; a trained health; the exact indication of the diet as to quality and quantity; the amount of wine, malt liquor, &c.: these are the problems you are to solve, and upon their correct solution depends the question whether you are to have the great satisfaction of seeing your patient restored to health; or whether she, by a dawdling, indeterminate course of counsel and prescription, is to be left to drag out the weary years of broken health, lapsing from one evil to another, until, under the first serious attack of disease, she falls the victim of what is truly denominated a broken constitution. Who broke that constitution? The disease, by its violence, or the doctor, by his want of foresight, zeal, and intelligence?

The pessary, then, is to be regarded as the suspensory, as the splint, as the bandage—and, in truth, as happens in many other cases in surgery, these are the only indications. But, as in surgery, you would not, perhaps, treat an orchitis solely by the suspensory, but would make certain prescriptions, with a view to abate constitutional or local derangements of the circulation, the absorption, or the innervations of a part, so in the management of the prolapsions, you might not rest content with the curative power of the pessary alone, but provide the other juvantia of which I have already made mention.

How long shall a woman wear the pessary? An important question, that cannot be solved but upon experiment. Several months will in general be required in any case, because the fastidious delicacy of a female will always prevent her from disclosing to you her distress in its early stages, and you know that chronical disorders are more difficult of cure than recent or acute ones. Hence I repeat that the cases that may come under your care are very likely to prove tedious and protracted. They will be mostly chronical.

It will be a part of your duty to keep up a strict surveillance of the

patient under treatment. It will be a duty to receive her report from time to time as to the operation of the instrument. You may become convinced that a larger or a smaller one is indicated; and always, where you can believe that a reduction of the diameter of the instrument is admissible, that ought to be made, on account of the less inconvenience to be suffered by the tissues under a less degree of distension and pressure. I esteem it a very great fault on the part of the medical man, to adjust a pessary for a female, and to send her away without very plenary instructions as to the conduct of the subsequent steps of the cure. Women sometimes have wholly forgotten them, and allowed them to remain for a series of years, until the instruments, having become spoiled by age, or the action of the acids of the parts, have rusted, opened, and admitted into their cavities the most shocking collection of putrid humors. I have removed several such for persons who had neglected themselves for years, and thus become exposed to the danger of putrid infection from materials kept in a state of decomposition in the interior of their bodies. Pray turn to the 145th page of Colombat, and read the foot-note, for the case of the Baroness de Carl . . . , who was supposed to be laboring under a cancer of the womb. This lady was suffering from a pessary that had been introduced thirty years before. It was thickly covered with calcareous incrustations that could not but irritate all the parts touched by them. I am acquainted with a lady who suffered under uterine and vaginal hemorrhage, with a frightful, stinking leucorrhœa. The surgeon who had adjusted the instrument ten years before, as well as the lady herself, had forgotten it. The treatment was all in vain, until, upon making his taxis, he discovered the cause of the malady. Its removal was the indication. The indication being fulfilled, the disorder disappeared, after having reduced the fine woman very near to the grave.

There is another reason why you should overlook the operation of your pessaries; and that is, that their pressure, in some instances, is followed by absorption and ulceration of the parts compressed. There are plenty of samples in the records, of pessaries that, by neglect, have forced their way into the rectum, compelling, by long pressure, the absorbents to remove the recto-vaginal septum; so that, a part of the instrument resting in the vagina, another part of it forced its way into the bowel, establishing thus a recto-vaginal fistula. The same catastrophe may happen as to pressure in another direction. The bladder may be opened, and even bladder, vagina, and rectum, may be and have been made to communicate with each other, by the ignorant or careless employment of these excellent instruments. I am very sure that such distressing occurrences will never follow your ministration in

this line, since I indulge the confident hope that you will never fail to do your whole duty, which is, after adjusting the apparatus, to make the woman clearly understand what she has a right to expect, and what she ought to do, in reference to the remedy.

You would not be apt to suppose that a woman, who had long suffered the pains, &c., of prolapsus, and who should be completely relieved of them by wearing a pessary for three, six, or twelve months, could dispense, at once, with the suspensory instrument, without finding reproduced some of the annoying sensations which its presence had rendered impossible. Therefore, whenever you conclude to remove the support, she ought to be informed that she will experience some return of the strange feelings, and thus be led to fear she is not cured. The fear of this is the motive for advising you to substitute a smaller for a larger instrument, and so on at each consecutive change, until the patient is quite able to do without one altogether. Or, if you be prompted by any motive to desist from the further employment of the support, you certainly ought not to do so, until, by a proper aperient dose, you have cleansed the alimentary passages of their contents ; and then, taking away the pessary, command that the patient should keep her bed for a few days, in order to obviate the pressure and descent of the pelvic contents likely to take place upon the sudden withdrawal of all artificial antagonism—the patient being not only on her feet, but engaged, perhaps, in occupations of a laborious or fatiguing kind.

I verily believe, my young friends, that you have now not the intelligence only, but the means, apparatus, and authority required to enable you to effect a certain and durable cure. If you do not effect that cure, the fault will lay at the door, not of the malady, but at your door, for carelessness, or at the woman's, for obstinacy and folly.

The ancients were in the habit of employing for these maladies many medicated pessaries, which though really pessaries, were also deemed to be *suffita* or fumigations. It is probable, that among the host of old methods were some very effective ones, now become wholly obsolete in the elegant practice of the metropolitan physicians. I think I have, in my lecture-room, advised you not to omit in your armamenturium, the sachet or little bag, recommended by Levret, and, indeed, by Hippocrates and his descendants down to this very writing.

When your patient shall have discarded her pessarium, let her construct half a dozen small cylindrical bags as big as the thumb. They should be made of good linen, and should be packed full, very full of finely-grained, not pulverized Aleppo galls, to which may be added a few grains of sulphate of quinia and alum. The bag may have a short bit of tape or a little loop of tape secured to its lower end. If soaked, for

an hour or more, in some common rough claret or weak port, then pressed and dried in a napkin, and dipped in sweet oil, it can readily be introduced into the vagina as a medicated elytroid pessary. It does not inconveniently distend the vaginal walls, which it tends to strengthen, enhancing their tonicity by the medicinal articles contained, while it elongates, or produces the vagina, and thus supports the womb *in sitû*.

A sachet adjusted in the evening will not escape, if the patient wears her napkin; and it might very safely be allowed to retain its place for six or eight consecutive hours, more or less, nightly, for an indeterminate period.

These medicated sachets are of very great value in the treatment, not only of the relaxation and fall of the vagina, but also, as agents for suppressing the too abundant excretions of the follicles and glandules of the mucous membrane. I am surprised that they are not more commonly resorted to in the United States. In addition to the materials I spoke of, they can be compounded, with proper proportions of cubebs, opium, kino, krameria, oak bark, &c. &c. If you will take my advice, you will not reject them from among the resources of your art.

Half a dozen of them, prepared by the patient herself, who is supposed to be never disjunct from the needle and scissors, would last as many days.

You will find great success in managing some of your cases, if the prolapsion is not very decided, and where it is accompanied with signs of rheumatic sensibility of the womb, by the following method. Let the patient, with a pair of scissors, form several olive-shaped sponges as large as the thumb. The sponge being carefully trimmed, so as to avoid any uneven projecting points, a loop of thread or bobbin being attached to one end of the olive-shaped sponge, let it be moistened with a proper material, and pressed through the ostium vaginæ and carried to the os tincæ. Let this be adjusted at bedtime, and removed in the morning; a clean one to be used every succeeding night. The liquid may be prepared as follows: Take of extract opium, extract of conium, Goulard's extract, of each two drachms; water four ounces. Make a proper mixture, to be used with the sponge.

Such a suffitum as this would sustain the womb at its due elevation all night, or eight hours out of twenty-four; and the soothing and conservating influences of the drug would, as I have found by the experience of my patients, lessen the sensibility, while the tonicity of the tissues is augmented; so that we have three good indications well answered by its means.

I am hardly willing to burden these letters with descriptions of the other sorts of pessaries. Yet I ought, perhaps, to protest against the

sponge, most particularly against the sponge. It is a tampon. I have, in my long lifetime, had too many occasions to use the tampon, not to have learned what a foul and fetid thing it is after having passed only twelve hours, bathed in animal fluids at a temperature of 95° or 96°. I protest against its employment as a pessary, not only on account of its irremissible fault of uncleanness, but for the additional objection of its irritating nature. The points of the sponge could not fail to vex and fret the mucous tissue of the vagina. There is no objection, however, to the use of the small pieces above recommended as mere temporary suffita. They do not become foul in six or eight hours.

Pessaries are also made of pieces of cork cut into oval or circular disks, and dipped repeatedly in melted wax, until a sufficient coating of the wax being imposed, they are adjusted beneath the uterus to retain it at its due height in the pelvis. Similar instruments are also prepared by coating a tissue with varnish consisting of boiled linseed oil, after the manner of the French bougie or catheter. They are also objectionable as liable to change and to infiltration. The wax coming off from the cork, leaves its scabrous surface in contact with the living tissue of the womb or vagina, to their great damage or ruin, while the accumulation of putrescible fluids about them might well serve to provoke the attack of dangerous fever.

You will find a capital, cheap, and commodious pessary in one of the little caoutchouc bottles that you can buy for ten or twelve cents at any of the apothecaries. This is the pessary recommended by Dr. Hervez de Chégoin, in a paper on Retroversion, read at the Royal Academy of Medicine, and which I have already spoken of.

Procure such a gum-elastic bottle, about two inches in diameter, and, without cutting off the neck, pack it full of finely-carded wool. Take care merely to distend it well, not too much, for it is desirable to have it very soft and elastic. After filling it so as to give it permanently the requisite form and size, be very careful to tie up the neck of the bottle so securely as to remove all danger of the wool being penetrated by the excretions of the vagina. If you allow those fluids to get inside of the bottle, they will undergo a horrible putrefaction. Leaving the neck sufficiently long, the pessary will maintain its position, because the cylindrical neck being directed towards the os magnum, will keep the instrument steadily *in situ*. You can cut a solid piece of caoutchouc into the shape of a phial-cork, and stopping the neck of the bottle with it, secure it there with gum-elastic cement, which seals it hermetically. I prefer the stuffed one to the inflated one of Dr. Hervez.

It may be worn long without changing; that is to say, several weeks —not months. It is soft, light, elastic, and therefore suitable for some

cases in which the metallic resistance of the globe or ring, or elytra, would be painful. For the poor it is cheap—and perhaps it is on the whole, nearly as good an instrument as a silver-gilt one. These bottles have a neck from half an inch to three-quarters of an inch in length. If you should prefer one of them, after you have filled the bottle with carded wool, or curled mattress-hair, which you can press into it so as to give it any shape you may prefer, should you have no gum-elastic cement at hand, you might put a short velvet cork in the neck of the bottle, and drawing the gum-elastic over the cork, tie it so as completely to exclude the air and prevent the entrance of any of the fluids of the vagina within the bottle. The neck of the bottle being directed towards the vulva, there is no risk of the instrument changing its position.

I had some time charge of the health of an old lady here. She was 85 years of age, and had long endured the inconveniences of a procidentia. The perineum and the levators were without tonicity, and no globe nor disk could she wear, as they instantly escaped on account of the relaxation of all the parts. She was, for years of her decline, made comfortable, as to her prolapsus, by means of a ring pessary.

She took a long slender whalebone, bent it into a ring of near three inches in diameter; then wrapped it, or as the sailors say, served it with bobbin, so as to give it proper size and firmness. She then dipped it in melted wax again and again, until it was completely and sufficiently coated with the wax. This ring she adjusted within the vagina, and by its aid maintained the womb in the pelvis.

Another woman employed a common umbrella ring for her prolapsion, and wore it for years *à l'insçu de son mari.* It might fancifully have been denominated the Gyges pessary.

Since the 2d edition of these Letters, I have used a pessary made as follows, viz: Take a bit of watch-spring, say 3 inches long, bend it, and bringing the ends together, so as to let them overlap a little, fasten them with a rivet or with solder. Thus, you have prepared a watch-spring ring that is very elastic. You can press the opposite arcs together, so as to make it flat if you will. Having completed your ring, next wrap the steel all round the circle, with good bobbin or firm cotton cord, so as to *serve* it as the sailors say when they wrap a rope with cord. Thus you have got an elastic cord-ring; next, lay it in a saucer with melted wax, and let the wax completely infiltrate the threads and cover the steel; then, when cooled enough, take it out and make it smooth, and you will have an elastic annular pessary of wax. Before you make the instrument, you should determine what ought to be the diameter of the ring when finished; a lamina of watch-spring 9 inches in length, will make one, when completed, 3 inches in diameter—if you want one of $2\frac{3}{4}$

inches, or one of $2\frac{1}{4}$ inches, you should cut the watch-spring of the requisite length.

Dr. Charles Evans, of Philadelphia, effected an admirable improvement in the elastic annular pessary in the following manner: After serving the ring with cord, instead of dipping it in wax, as I proposed, he dipped it in a solution of gutta-percha, made by dissolving gutta-percha in chloroform. That curious substance readily dissolves in chloroform, and when the ring, after becoming well soaked in the solution, is taken out and exposed to the air, the chloroform soon evaporates, leaving the annule perfectly coated with gutta-percha; it is easily made smooth, or even polished, and when warmed a little in the hands is as flexible as could be wished. Remember, now, I pray you, that the antero-posterior diameter of the pelvis is $4\frac{1}{2}$ inches; if, therefore, you press this watch-spring (gutta-percha ring) into the shape of a long ellipse, and introduce it into the vagina, so as to place the sacral segment of the ring in the pouch or cul-de-sac of vagina behind the cervix, and let the anterior segment rest on the posterior face of the pubis, you will fix the further end of the vagina at a distance of full three inches back from the pubis, and that is far enough for most purposes, and it is clear that while the vagina is there, the neck is there also, and cannot fall down as long as the ring keeps its place.

Do you ask if the ring gives pain? No, not the least, provided you have adjusted a proper one; and a proper one is always that one which will not overstretch the anterior columna of the vagina. In an old case, the columnæ of the vagina have become permanently shortened and condensed from having for a long time rested so. You ought not to expect that you can readily stretch the columns at once—or if you do, their resistance will give pain. Take heed, therefore, to use, at first, one that will extend it gently or only a little—and occasionally take away the ring and substitute a larger one; by this means you will be able not very long after the first small one to adjust and leave *in sitû*, without pain, one of a full size, say $3\frac{1}{2}$ inches. Such a support, left in place for some weeks or months, ought to cure the woman of her prolapsus.

Pessaries are never to be introduced except after a careful inquiry with a view to ascertain the state and wants of the tissues affected. A gentleman informed me, in the street, that he had a very singular case of prolapsus uteri—that the vaginal cervix was enormously swollen, and that he had in vain tried repeatedly to discover the os uteri. He feared that some very extraordinary state of things must be present to alter so completely the form of the parts.

"What are you doing for your patient?" said I to him.

"Why, I have tried the pessary, but without any success. She

cannot retain it at all; it comes away, and moreover gives her great pain."

"How is her strength and health?"

"Oh, very weak; she has the most violent menorrhagia, and has become, in consequence of it, much reduced and perfectly blanched."

"Go," said I, "to your patient again, and make a careful examination. You shall find that your enormous cervix uteri is not a cervix, but a polypus that fills up the vagina—that bleeds, and that has no os uteri."

He took my counsel, repeated his diagnostic exploration, and came to say that it was truly a polypus. Upon the extirpation of the tumor, by means of Gooch's double canula, the hemorrhages ceased, and the lady recovered good health without any prolapsion.

I relate this case for your warning; because the gentleman who made the mistake is a person of the most elaborate medical education, both theoretical and clinical. You who are young and inexperienced, will be vastly more likely to make such *bévues* than he. And indeed! it is curious to think how many strange, ridiculous misapprehensions one meets with among the brethren in regard to women's maladies. It seems to me that the delicacy of the relations existing between the sexes must have the effect of blinding some persons to the plainest and the most diaphanous truths and facts. Dr. Lever, in his work on the diseases of women, refers to the liability of careless observers to make such a mistake as that made by my friend above mentioned, whence I conclude he has met with similar instances of false diagnosis.

There is a kind of pessary, called by the French the pessary *en bilboquet*, but which is properly, in English, denominated the stem-pessary. Such an instrument is indispensable for the comfort of those who, having lost all sphinctorian elevative and perineal force, cannot retain within the walls of the pelvis, either the reproductive organs or the instruments introduced to serve the purpose of an obturator, or diaphragm.

Dr. James Blundell, of London, furnished such an instrument, however, to a patient of mine, who had long suffered with prolapsus and retroversion, and it answered the purpose well.

It consisted of a gilt pear-shaped pessary, about one and a half by three-fourths of an inch in diameter, screwed on a small gilt stem, the size of a writing-quill, and three and a half inches long. This was the pessary. Now, the frame on which the pessary was supported was a hard silver wire, twelve or thirteen inches in length, bent so as to bring its extremities together, which were secured with hard solder. The wire ring thus made was reduced to the form of an open parallelo-

gram, the angles being left rounded, and a crosspiece of silver being adjusted across the middle of the wires, constituted a bed into which the free extremity of the pessary stem was screwed. This flat bar was three-fourths of an inch long, by one-fourth in width. The wire frame was bent so as to make it fit the curve of the inferior part of the trunk of the body; more or less, according to the embonpoint of the patient. A girdle of suspender-web was fastened round the hips just below the cristæ of the ileum, and straps of leather attached to each extremity of the wire frame, were fastened by hooks and eyes to the girdle.

Such an apparatus can be worn with little inconvenience, after a day or two of habituation; and the vagina can be extended, carrying the uterus before it to any desirable length. Patients who have employed it, have been relieved of uterine deviations that would not yield to the globe, the discus, or any other treatment. The greatest objection to this instrument is its costliness; for Mr. John Rorer, of North Sixth Street, who has prepared several at my request, informs me they cannot be sold at a price under fifteen dollars each.

There is another pessary in use here, fashioned somewhat like a horseshoe, either furnished with the corks, that is, by bending the heel of the shoe, or without the corks; I have never used this instrument, nor shall I employ it, since I cannot deem it safe to allow the points of the horseshoe to be the points of resistance to the whole tenesmic or bearing-down power. Such a point of pressure is too small. Indentation is followed by absorption; upon the same principle as that which causes what is called the bed-sore; and ulceration of the compressed points gives insufferable pain.

You ought not to adjust a pessary beneath a womb in which the os uteri is inflamed, or ulcerated. Cure the inflammation first, and then adjust the pessary.

Having now said all that it is obvious for me to say, in this letter, on the subject of simple prolapsus, and the use of pessaries, and their kinds, I shall proceed now to recapitulate my views on the disorder—

1. Prolapsus uteri is a disease of the vagina, not of the womb.

2. To cure prolapsus uteri, you are to seek to cure the vagina, and when you have done that, the womb will be found cured also.

3. The pessary is a suspensory, which in the cure of prolapsus is as necessary as a suspensory is for an orchitis.

4. I prefer, as a general proposition, the globe, to all other forms, and Dr. Physick's globe pessary to any other for the treatment of simple prolapsus.

5. If you apply the pessary in cases not suitable, you will do mischief. There ought to be no inflammation or ulceration either of the vagina or the womb.

C. D. M.

LETTER XV.

PROLAPSUS UTERI.

Gentlemen: There are certain circumstances connected with prolapsus uteri that I ought to notice, as supplement to the observations contained in my last letter.

The question arises as to the treatment of prolapsus in the unmarried female; and I may observe, that I have been many times asked by my friends of the profession here, whether I had met with prolapsus in young unmarried women, and if so, how I had proceeded in the treatment of them.

Now you will have observed that, in the former letter, I have averred that prolapsus uteri is an affection of the vagina, and not of the womb itself; and that, to cure prolapsus uteri, you should direct the resources of your skill to the curing of the canal, and curing that, you would find the womb, *ipso facto*, cured also.

I do not entertain any doubt as to the correctness of this opinion; and often have I, in an otherwise healthy, strong, and well-developed female, still a virgin, found the os uteri so depressed as to touch the posterior surface of the membrana hymen.

The effect of long-continued tenesmus, connected in its origin with a torpid condition of the rectum, and the accompanying urinary tenesmus, might well be deemed capable to shorten by degrees the vaginal tube, and thus allow the womb to settle down to the very hymen itself, as in the cases referred to. Long-continued irritation from hemorrhoidal disease and from catarrhus vesicæ—from an habitual pruritus vaginæ—a sedentary life—might reasonably be expected to produce the same state of things as to the vagina.

In the conduct of such a case, I should not deem a medical man warranted upon a mere suspicion, that the distress complained of had its origin in a uterine descent, to institute a vaginal taxis. On the contrary, he ought to endeavor, by therapeutical measures, to obviate the distress. Fortunately, these measures are sufficiently numerous and prolific of cures, if well chosen. They are: 1, a free venesection; 2, the operation of a few doses of some safe, but active purgative medicine, such as the compound powder of jalap and cream of tartar, repeated on

alternate days for four or five doses; 3, an enema of forty-five drops of laudanum in a fluidounce of starch water nightly, upon going to bed; 4, rest in a recumbent position for a week or ten days; 5, the warm bath repeated nightly, before sleeping, and used during two or three weeks; 6, great care taken to avoid accumulation of considerable portions of urine in the bladder, which can be accomplished nearly at will by the patient, under proper instruction.

There is good reason to expect that such a course of advice and consequent action will be followed by relief from the distressing symptoms of the malady; and that, when thus in a measure relieved, the young woman will be able, under a judicious treatment as to sleep, exercise, and food, to recover her health. It is very clear to me, that I have seen several, nay, many of them, get well under such a course. But, to recover thus, is far better than to recover after having been subjected to the mortification of the *Touch*. I assure you, that I have allowed a young lady to lapse from bad to worse until her situation had become dangerous and to the last degree alarming to her friends, rather than expose her to such vexation. I shall report to you a case of this sort when I come to speak of menorrhagia.

In one person, aged about thirty-five, who had been long rendered miserable and inefficient in the performance of her duties, which consisted in earning her own support and that of her mother, I found the os tincæ jammed against a strong hymen. As the Sieur de la Motte informs you, in the extract at page 144, I could readily push the os uteri away from the membrane on pressing my index finger through the opening; but as soon as I withdrew it again it came back to its old place where it had long rested, in consequence, I suppose, of her sedentary habits, and the torpor of the rectum attendant on such habits. It was *necessary* to cure her of a disabling pain. I therefore pushed the uterus out of the way as far as I could; that is to say, I made the vagina as long as I could make it by pressing the point of my finger on the os uteri, and thrusting it slowly as far as I could reach; but this operation could not cure the patient, for, as the knight of Valognes saith, "il revient aussitot qu'on a oté son doigt."

I had no other recourse, therefore, than to the employment of a suspensory apparatus. The suspensory that I chose was Dr. Physick's globe pessary. I do not remember the size of it, but I presume it might have been one of an inch and seven-eighths in diameter. This globe, being slowly and gently pressed into the os magnum, after being dipped in a cup of olive oil, ascended in the vagina to a sufficient height to produce that organ, and restore its long diameter. You should observe that such an instrument does not rest at the lower end of the canal;

for in fact it is pressed upwards by the contraction of the muscular fibres that serve as sphincter, and which in some women are so strong as to possess a truly spasmodic force. I repeat the words, spasmodic force ; and I say so because I have met with more than one example of that spasm existing as a tonic spasm, and giving rise to great pain like the pain of cramp; and even preventing the accomplishment of the union of the sexes until overcome by treatment: and this in several persons of 40 and 45 years of age, who had born children. I regard such cases as being forms of rheumatism. In one case here, the sphincter fibres were divided as in some of the tenotomy operations—the woman afterwards bearing children. This operation was done by your Professor of Anatomy, Dr. Pancoast, who related the circumstance to me within a few days.

I have only to remark as to my patient, that she was relieved of her distress. I have lost sight of her now, and am unable to represent to you the actual state of her health.

In other samples of young and unmarried ladies, I have been compelled to adopt the use of the pessary; but I have had less reluctance in so doing where I have found the hymen wanting. Not that I mean to cast any reflections upon those in whom I have not observed this sign of virginity; for I am speaking of persons against whose honor and purity no breath, nor the slightest whisper of imputation could possibly be breathed. There are many, many young virgins, in whom the membrane never existed; and I have a right to say so equal to the right of any other medical man of my age. As I have permitted myself to go so far in a discursive way, allow me to add, that I hope you will not be so stupid, when being engaged in practice, as to accuse of impurity and unchastenesss any female, otherwise worthy of your respect, because you may happen not to meet with this membrane. The courts of law are liable to commit great errors of judgment upon questions connected with the opinion of the invariable presence of the hymen in virgins. I am sure that it in many cases does not exist even in the very young virgin, and also that it does exist in some women who have borne children. I can assure you that I know several persons, long married, in whom it has never been broken; and among them, some whom I have delivered of several children, and in whom the mark of virginity is still in its place. Hence, the hymen is not proof of virginity, nor is its absence a sure sign of defloration.

There is a sort of prolapsus that has this peculiarity: viz., that when you attempt to push the womb up to its place, you cannot make it recede, for it seems to be immovably fixed; and this is the case described

as immobility of the uterus. But please observe that this immovable womb is not, indeed, immovable.

There came to me, a few years since, from the State of Rhode Island, a gentleman bringing his wife for my counsel as to her case. They had been married for some time, I think over two years, and had had no children. The lady suffered with constant pelvic pain; also great pain in the back and hypogaster. She was reduced in flesh; could take no exercise; had a poor appetite; was costive; and had been confined to her house for many weeks before leaving home in the steamer for the journey. The gentleman was in the habit of carrying her in his arms up and down stairs, in consequence of her weakness and her pelvic pain.

Upon making the vaginal taxis, I found the os tincæ just at the os magnum, and that it would recede but very little upon my pushing it with the palp of the finger. It was as firmly fixed as if it had grown fast there.

As I concluded that all her pelvic distress was reasonably to be attributed to a prolapsed condition of the womb, I resolved to get it out of the way, and I was sure to accomplish my object; for I had many times before met with this so-called immobility of the womb, which I had proved to my own conviction not to be immovable.

I procured, therefore, a small globe pessary, the diameter of which did not exceed an inch and a quarter. This pessary I slowly pressed through the os magnum, allowing time enough to permit the vagina to yield in the direction of its axis. I was a long time engaged in pressing the globulus into its position, and I did fail to adjust it to my mind's contentment; for I was compelled to cease any further prosecution of the attempt, and leave it so far immerged that only the equator of the ball was within the grasp of the vagina, yet leaving a small segment of the sphere projecting betwixt the labia pudendorum, that were slightly disparted by it, rendering it easily tangible externally. I now caused her to be drawn up into her place in bed, lying on the back, with an urgent request that she would tolerate any pain or strangury that might come on during the night, and holding out the expectation that the protracted and gentle pressure to be exercised by the contractility of the tissues, would by the next morning carry the ball high up into the pelvis, though it was now just under, and perhaps a little in the rear of the crown of the pubal arch.

And so it happened. In the morning, I found the globulus had been pressed completely into the more lax segment of the vagina, by the contractions of the sphincter and the contractility of the non-muscular tissues.

In short, she began to go about the city; soon afterwards returned to her own home, and within about six months I had a letter asking my advice, as to the continued employment of the pessary, in her then condition; as she was in the fourth month of her pregnancy. Of course, I advised the removal of the instrument, since which I have had no intelligence from her.

By way of parenthesis, let me inform you that the pessary does not put a bar either to gestation, or to conception. I say this, being founded on repeated observations; one of which, but yesterday, May 22d; the woman having told me she had never removed the globe, though she is now *enceinte.*

Why should you, then, feel any anxiety as to the escape of the mucous and mensual excretions? The globe and the disk are alike incapable of preventing the due discharge of all the products of secretion, the hemorrhages, &c., that may appear beyond it.

You would reasonably expect that the pressure, and even the presence of any foreign body in the vagina, and touching the womb, might excite an increased mucous discharge. This is a general consequence of the first use of such methods, but these newly excited discharges soon disappear. Take heed, though, and take good heed, too, that the patient shall inform you of any such discharges coming on at a later period of the treatment; and particularly if such discharge should have any, the smallest trace of blood mixed with it. Such an occurrence would lead strongly to the inference that the instrument had excited ulcerative inflammation with purulent discharge. It is of the highest moment in any such case, to take away the support and carefully examine the parts by the speculum uteri. If the os tincæ, or either of its lips should be found red, with visibly enlarged venules and capillaries; or if any abrasion or granulations should be detected; touch them with sulphate of copper in solution held in a camel-hair pencil; or with Goulard's extract of lead; or with acetate of zinc and wine of opium; or with nitrate of silver; or acid-nitrate of mercury. Ten grains sulphate of copper, to half an ounce of water will do; Goulard's extract and water, equal parts; ten grains acetate of zinc, forty drops wine of opium, and half an ounce of rose water; ten grains, or twenty grains of nitrate of silver, to the ounce of water. These formulæ are perhaps sufficient.

If the vaginal cervix is turgid, red, and sensitive, eight or ten leeches dropped into the speculum of Recamier, will, in twenty-five to thirty minutes, have drawn from the cervix caught in the uterine extremity of the speculum, a quantity of blood, sufficient to lessen the turgescence of the cervical circulation.

Surely, such a patient should keep her bed or her couch until cured of the abrasion and inflammation.

As to the use of the pessary. I recommend that you adopt as an invariable rule of practice, that you will not prescribe, nor even sanction its employment, until convinced by actual knowledge that the indication for it is there. I say so, because everybody knows something, however imperfect, about the pessary; and every woman who has a pelvic misery will naturally be disposed to play the quack as to her own case. If the case be one likely to be benefited by it, you ought to allow and recommend it; but that you cannot know by instinct. Inquire, examine for yourself, and if there be sensibility, discharges—and especially discharges of a bad color—away with a pernicious instrument, which can only make the sick woman more ill, and bring into discredit a means of relief commended by the united voices of twenty centuries.

But take this one caution. Don't use a pessary for a pregnant woman if it be possible to get on without it. The pessary must distend the vagina. The vagina if distended at its upper end must tend to open or widen the os uteri. If the os uteri opens in a pregnant woman, the womb will surely expel its contents. Therefore, if you do not wish to make people miscarry, don't use pessaries for women *enceinte*.

And, now, what shall I say of those utero-abdominal supporters, that you see paraded in the newspapers, and forced into vogue by the certificates of physicians, and proh pudor! of Professors in the Schools of Medicine in America and Europe!

What shall I say of them? Have you a skeleton in your office? I pray you open the door where the grim and ghastly representative of our poor mortality stands, the mocker of human pride and ambition. Don't you see that, if you draw a line from the pubis to the xyphoid cartilage, it will represent the linea alba of the grim figure? Look again, and observe the place where the mesentery was attached, and the root of the mesocolon too. Look down through the plane of the superior strait to see where the uterus was, and where grew the vagina that supported it.

Now take a utero-abdominal supporter, and adjust it as the mesmerized do, mentally, upon the skeleton, and you will see that it can have no effect to hold up the bowels: that it can only push your fancied tractus of the linea alba backwards against the spinal column; and with what effect, pray? Surely, with none other than one of encroachment on the capacity of the abdomen. Do you not see that the belly of a living man or woman is a vacuum plenum? How can you hold up the bowels by a pad? If you could thrust them upwards in the vacuum

plenum, which you cannot do, you would only thrust them towards the concave of the diaphragm. But the diaphragm must come down, or the woman will die. She can't breathe but by the descent of her diaphragm. Her diaphragm is her respiratory piston, and the trunk of the body is the cylinder in which this piston moves downwards in the aspiration and upwards in the expiration of the air of the atmosphere. But your utero-abdominal supporter knows better than the Providence that made this great machine; and he is about to make the piston work half strokes in breathing; like an engine that one is afraid of. No, young gentlemen! the utero-abdominal supporter cannot hold up the bowels; it can make the belly too small to contain them, and they will make haste to get out of the squeeze by falling down into the pelvis, where they were not before, and ought never to be. If they sink down there, they will push the womb down, and keep it down.

How could the surgeons of the United States and England put their names, like so many notes of admiration, to such an anti-chirurgical and anti-physiological nonsense! Did they forget that one-fifteenth of the human family is asserted to labor under hernia in some shape? And why? Because, the belly being too small for its contents in one out of every fifteen of us, they must force their way of escape by the umbilical ring, by the abdominal canal, under Gimbernat's ligament, and elsewhere, wherever the pressure can force them out: yet these recommenders, in an unblushing advertisement, come to put on utero-abdominal supporters, forsooth! I am ashamed for my cloth, when I see their names so wrongfully appended to a quack advertisement. I thank Heaven you do not see my friend Dr. Hodge's name there; and you may take my word, that mine shall suffer from no such use of it.

You perceive I am not quoting in these Letters a hundred authors to sustain me, in my instructions to the cherished members of my class. I promised you to make for you a book out of my own brains, and that I shall try to do, avoiding useless citations. It would be far easier to take my scissors and cut Letters, paragraph by paragraph, out of the volumes in my library. I hope you will not be inclined to say it would be better had I done so, and that, in that case, the letters would have been better letters. There, however, are the volumes all in rows. Too many of them, like much of the literature of our calling, have been made by the scissors, being the lazy repetitions of what has been said a thousand times. I hope, though, you will take every opportunity of reading what those books contain on all these topics. There is no danger of your reading too much. The more you read, the better will you be prepared to judge, whether what I say here and in the lecture-room, be just and reasonable or not. Farewell. C. D. M.

LETTER XVI.

RETROVERSIO UTERI.

Gentlemen: My purpose as to this letter is to put down in it the opinions I have formed, concerning a very common malady, which, though it has been the subject of frequent publications, and of much discussion, seems to me not to have been placed in that clear, open light, that the simplicity of its causes ought to have enabled authors to shed upon it, in their printed communications.

Retroversion of the womb, or the state wherein the womb is turned over backwards, is one of the most common of the deviations of the organ met with in practice; it appears to me to be a case whose principles as well as the methods of its cure ought to be easily understood; yet I have been much surprised to find many women come to this city from remote districts and States, in order to be treated for some uterine disorder, which had never been fully investigated by their physicians at home; cases of which the outward signs were in general sufficiently clear to warrant one, if not to pronounce this diagnosis, yet at least sufficiently so to point out the necessity of completing this diagnosis by Touching. It has for a long time past been with me a settled conclusion, that 75 per centum of the cases of uterine disorders and displacements that are subjected to my inquiries, consist in retroversion of the womb; so that the occurrence of the accident is so common as to increase my surprise at the very general want of information concerning it throughout the country, and particularly at the singular mistakes in its diagnosis, frequently made by very good practitioners, who might be supposed to know better.

Before we proceed further, let me beg you to stop for a moment, in order to reflect upon the situation of the womb within the pelvis, and its relations and connections with the various parts by which it is environed; to regard it as placed betwixt the bladder and the rectum; being largely attached to the bladder at the utero-vesical and vesico-vaginal septum, and also to the vagina within the top of which it is invaginated; and subject, therefore, to be alternately moved backwards towards the sacrum, and forwards towards the pubes, by the varying conditions of the bladder of urine, as filled or empty.

You should observe that whenever the urine is evacuated, the bladder is collapsed, or rather contracted, and the womb brought nearer the pubis; and that when the bladder is full, it pushes the womb towards the sacrum. What is the limit of this retreat of the womb? Is there an apparatus to prevent it from being carried beyond due measure backwards?—or is it liable to be pushed bodily against the face of the os sacrum? Such are the questions to be answered in order to come at a knowledge of the truth.

What other office could you assign to the ligamenta rotunda than that of preventing the womb from going too far in a backward direction? Be assured that the sole use, destiny, or office of the round ligaments, is to oppose the retreat of the uterus beyond due measure backwards; and that, like a ship's forestay, each ligament is charged with the duty of retaining the fundus of the organ in sufficient propinquity to the anterior semi-circumference of the pelvis, and of retaining it erect nearly in the middle, not too far back, and not too nigh the pubis, where its presence might interfere with the office of the bladder of urine. The anterior columna of the vagina ought to be long enough to allow the os to go back within an inch or an inch and a half of the lower segment of the sacrum, and no more. But the ligamenta utero-sacralia, should prevent the os from coming more than two inches forward from the sacrum towards the arch of the pubis. So you see, the womb is in a manner held to its true place.

Suppose a woman could, by any accident, or by any surgical operation, have her round ligaments cut off! You perceive the inevitable consequence would be, that the womb would turn over backwards, and rest against the sacrum; or even dive backwards, carrying its head deep down into the peritoneal cul-de-sac betwixt the vagina and the rectum, while the os uteri would point upwards towards the bladder, behind and above the crown of the pubal arch. This would be a true retroversion; but if, by any art, the cut ends of the round ligaments could be made to unite again, the retroversion would be at once cured; for there can be no retroversion with round ligaments only two and a half inches long. How could there be?—since the plane of the superior strait is four and a half inches over, from front to rear. Certainly, two and a half inches of round ligament cannot stretch across the plane, which is four and a half inches long. Much less could they reach down to the bottom of the excavation, unless they were excessively relaxed or stretched beforehand. I repeat the question—if they should be cut off, would not the womb fall back and turn over? If you say yes, then you have proclaimed your theory of retroversion, which depends on relaxed round ligaments.

Retroversion of the womb, then, is a case in which the chief fault, the maladive or pathological fault, is in the ligaments, and not in the womb itself. Hence, if you intend to cure a woman of retroversion, your intention should have reference, rather to the ligamenta rotunda, than to the womb. Cut off the round ligaments, and you will have retroversion; heal the wound, and the ligament being united again at the wounded point, the womb will be held up, and there can be no retroversion. Relax, stretch, elongate the ligamenta rotunda and the womb retroverts;—strengthen, shorten, cease to elongate the same ligaments, and the patient is cured. This is the doctrine. But you should take into the account the function of the utero-sacral ligaments, which when they too become loosened, let the cervix slide forward to the arch.

As to the persons subject to this accident, it must be admitted that the virgin and the wife, the sterile and the childbearing are all liable to it, because they are all liable to the operation of causes that over-strain, and elongate the round ligaments.

Yet doubtless, it is of more frequent occurrence in childbearers than in other women; since such are the persons in whom the round ligaments are most frequently put on the stretch, elongated, and weakened. Nevertheless, it is true that a great many women, who have never conceived, are troubled with the affection. I speak very confidently as to the liability of the virgin to the disorder, since I have treated it in such persons.

I say that the malady is essentially a malady of the round ligaments, and utero sacral ligaments, though the womb be the apparently suffering organ. I do not mean to say to you, that it is a matter of little moment that the womb should be reversed, and that the matter of great moment has relation to the round ligaments only; for I am not so inaccessible to reason and observation, as not to know, and admit, that a distorted, and so to speak, dislocated condition of the uterus, particularly in pregnancy, is a matter of serious moment; nay, a state of imminent danger, and of great pain. In all such cases, you should make haste to relieve the womb from its false and dangerous position—remembering, though, all the while, that it is not the fault of the womb, but of the round ligament; that your intention should be to disembarrass the womb, by taking it out of the false position in which it has fallen, not through any fault or disease of its own, but through fault and disease of the round ligament, which ought to have sustained and maintained it in its true normal attitude, but did not.

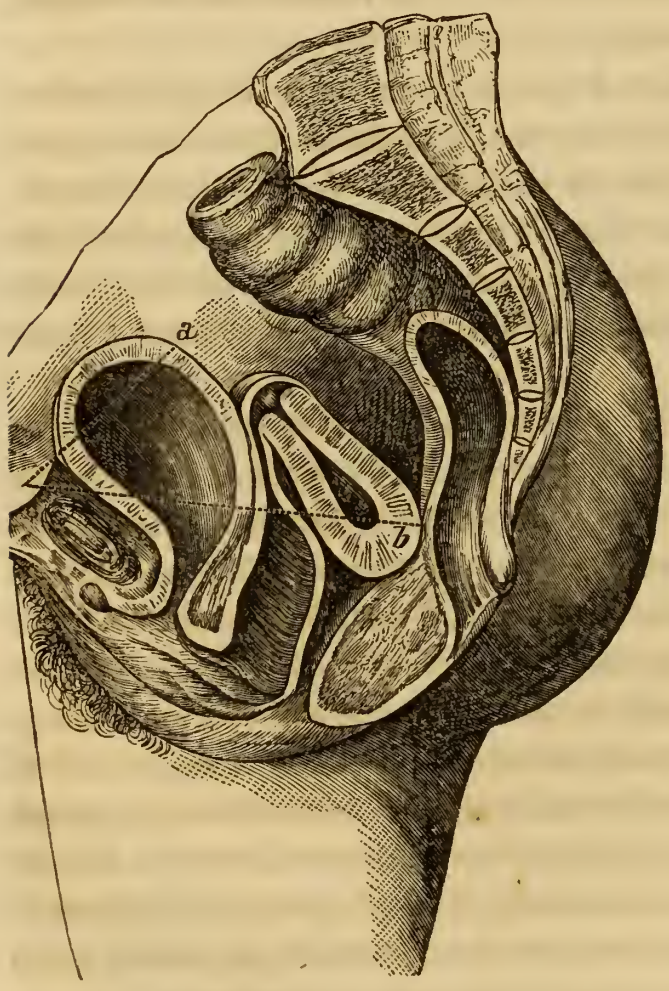
Let me repeat, that a healthy round ligament will not reach across the plane of the pelvis from front to rear—but a weakened, or relaxed, or overstretched one may be so very long, that it may reach not only

across the whole plane, but even down almost to the point of the coccyx. And now, I think I have defined my opinion, and that we cannot misunderstand each other in the sequel.

Here is a drawing copied from the specimen that I showed you last winter; and which represents it very correctly. The figure is a half female pelvis, with its contents, but exhibiting the womb retroverted. Look how the posterior face of the womb has become, by the retroversion, the anterior surface; and see how the os uteri is directed upwards, instead of downwards. This womb is quite topsy-turvy. The fundus of the womb impresses itself into the wall of the rectum; and the bladder of urine is distorted by the dislocation of its neighboring organ.

The artist has made a dotted line ending at (*b*), which shows you how much the round ligament must have been stretched, to let it reach thus to the bottom of the pelvis. The other dotted line, marked (*a*), shows how long, and where, the unstretched round ligament ought to be, and was, before the retroversion took place. If you push the index into the vagina, you will press it on the fundus and corpus uteri, down near to the sacrum, while the os is high up near the pubis. I think the drawing may explain the state of the case better than all the balance of this sheet.

Fig. 2.



In looking through the books again to find what the writers think on this subject, which, as you may remember, I have often presented in this light at our meetings in the lecture-room, I discover them not to be so clear and concise in their apprehension of the true nature of the case as I think you will be, if you adopt the opinions above expressed and set forth. They all know that retroversion is retroversion; but they seem not to know why. The famous Dr. Deleurye, in his *Traité des Accouchemens*, Par. 127, says of the round ligaments, "*Hors le temps de la grossesse, les ligamens ne sont d'aucun usage à la*

matrice; pendant la grossesse, ils peuvent lui servir, étant tendus et droits." So that Mons. Deleurye appears to regard them as provisions against a gestative want. Most of the authors, I believe, equally overlook the ligaments, as allowing by their failure the accident of a retroversion, except Velpeau, who, at p. 94, 2d edition, Paris, 1835, says: "But for them the womb would every moment be turned over backwards by the bladder, which is distended several times every day, with urine." They have escaped the attention of Robert Lee, whom nothing escapes. Cazeaux passes them by with scarcely a remark; nor does Churchill seem to deem them worthy of notice. Even MM. Désormeaux and Paul Dubois, authors of the article in the *Nouveau Dict. de Médecine*, pass over these organs without due regard; while Dr. Jacquemier's new *Manual of Midwifery*, which is the last novelty in our line, seems also to attribute this pathological condition to any tissue save the one really in fault. Authors say it is a full bladder that causes retroversion, or that retroversion causes the bladder to be over-filled.

For example, here is a brochure entitled *Mémoire sur la Rétroversion de la Matrice dans l'état de la Grossesse*, 76 pages, 8vo., 1843, by the distinguished Dr. Amussat, of Paris. I shall translate a whole paragraph from p. 22. It is in the following words: "A retention of the urine has been indicated as one of the causes of retroversion of the womb. In my opinion, the *effect* has been mistaken for the *cause;* a retention of urine being an inevitable consequence of the displacement; since the cervix, provided it have not been really bent, must immediately press upon the urethra and obstruct the escape of the urine. Certainly, where the retention of urine produced in this way is misunderstood, the distension of the bladder will tend to increase the displacement, and the use of the catheter, by drawing off the urine, might partly cause the organ to rise again above the promontory of the sacrum. But, it is incorrect to say that a retention of urine may produce a retroversion of the womb; it can only increase it—perpetuate it. However, I admit that where the bladder is habitually distended by a great quantity of water, and where this distension is a consequence of disease of the bladder or the urethra, there might, in the long run, follow a depression of the fundus from the weight of the bladder, and so, a tendency to a retroversion."

There, what say you as to Dr. Amussat's view of the case? In his whole pamphlet there is not one word of the round ligaments—and a man who teaches you the doctrines of retroversion without mentioning them, is like a surgeon who should teach you the whole doctrine of dislocation of the hip-joint without the least allusion to the orbicular ligament or the capsule. You might ask such a teacher, can a hip-joint

be dislocated without troubling the orbicular and capsular ligaments? And you might ask M. Amussat if he thinks a womb could be retroverted with a pair of ligamenta rotunda not over two inches and half long!

Dr. Samuel Merriman's *Dissertation on Retroversion of the Womb, including some Observations on Extra-uterine Gestation*, is equally devoid of concision in the exposition of the causes of the accident, for his whole book from beginning to end has not one word on the subject of the ligaments.

Dr. John Burns, of Glasgow, whose work, with notes by the late Professor James, was so long a text-book of the University of Pennsylvania, has not an item on the subject of the round ligaments in the whole of this article, which you will find in vol. i. p. 186, of *Burns's Midwifery*. Dr. Robert Lee, of London, who in my opinion is one of the ablest men in his department now alive, does not hint at the existence of ligamenta rotunda in his article on retroversion, which is at page 207 of his *Lectures on the Theory and Practice of Midwifery*, delivered in the Theatre of St. George's Hospital. London, 1842, 8vo. Nor does Dr. William Hunter, the father of all retroversion authors, say anything about them.

I think, that as retroversion is an accident very common, and in pregnancy very dangerous, it is important that you should not only be well aware of the state of the womb under it, but of the implications it may introduce as to other tissues; and it is exigent, not only to know these things, but why they do happen, so as to enable you to direct aright your intentions and method of cure.

Can you entertain any scruples in regard to my explanation of it? Let us try conclusions then.

The bladder, when it fills from the perpetual stillicidium of the two ureters, always fills first in a direction backwards, towards the sacrum; and when it cannot distend any further in that direction, its fundus mounts upwards towards the umbilicus. In Dr. Hunter's case, figured in his anatomical tables of the gravid womb, it went up half-way between the navel and pit of the stomach. Now, in a healthy, strong woman, the bladder, in filling, cannot go back to the sacrum, pushing the womb before it, because, as soon as the round ligaments are put on the stretch they cease to yield, and compel the bladder to develop its walls in an upward direction towards the navel. The womb is therefore safe; it repels the intrusion of the bladder, and makes it rise upward in the belly, agreeably to the explanation of M. Velpeau, in his Midwifery. But, there are certain women, who, from insensibility of their nervous system, or from their situation in the world, habitually

allow the bladder to become enormously distended, before they yield to the urgent call of nature. Such a habit must, inevitably, generate a laxity of the round ligaments, which being daily overstrained, yield more and more to the antagonizing force of the distended bladder, until they end, by becoming too long to hold the fundus of the womb in due propinquity to the pubis; wherefore, it must fall backwards to the sacrum, since there is nothing devised for holding it forward, except these round ligaments, that can now no longer do their office. This slow, gradual elongation of the round ligaments will explain to you the reasonableness of those writers who say, that retroversion may, in some women, come on gradually, and by small degrees, until it is at length completed. I have myself, no doubt, that the cases of retroversion in the unmarried are mostly brought on in this slow chronical way; though, it is true, when the woman is prepared for it by this process, some sudden exertion or succussion of the body may complete it in an instant. Suppose the round ligaments to have become habitually overstretched, until they have become four and one-fourth inches long. Do you not perceive, that a full bladder, suddenly jammed downwards in a fit of vomiting, or coughing, or straining, or jumping, might press the head of the womb down beneath the sacro-vertebral angle, whence it would not be likely soon to be pulled up again by the said ligaments.

Any pressure upon the rectum, whether from within, or without the cavity of the gut; any inflammation of it, or any irritation acting upon it or the bladder, excites what is called tenesmus, or a bearing down. In tenesmus, all the parts contained within the pelvis are pushed downwards towards the perineal strait, and, as the tenesmic feeling becomes more and more intense, it must happen that the overturned organ shall be pushed down into the peritoneal cul-de-sac, betwixt the bowel and the vagina. The womb cannot come into this situation without greatly augmenting the tenesmic feeling, and bringing on other complaints, such as strangury, or dysury, urinary tenesmus, rectal tenesmus, pain in the middle of the sacrum, in the ligamenta rotunda, sciatic pains, and pains along the distribution places of the obturator nerves in the groins and thighs, and a great disturbance of the entire splanchnic system of innervations.

You may very readily conceive of the disturbing influences, as to the general health, bodily and mental, of such a state of things; and in making up your notions of the modality of such disturbing operations, you will not leave out of the computation that vast and dominant force, which the reproductive organs of the female ever exert upon her entire physical nature. How much greater that force, when the womb and the ovaries, and the whole reproductive apparatus, indeed, is advanced

in power by the sanguine affluctions, and nervous determinations to which they are subject under such circumstances. You should not be surprised to witness the wildest hysterical phenomena; nor, indeed, the whole protean genus of hysteria. The organ soon becomes hypertrophied under such a provocation.

I have been accustomed to observe these influences for many years past, and have seen them carried to the extent of producing a temporary insanity, and the various modifications of the nervous manifestation below that which constitutes insanity. Many times have I found such a retroversion to develop a hypertrophied state, in which the organ grew twice as big as my fist.

The disordered womb can, by its nervous connections with the spinal and sympathetic nerves, disturb and vex any and every organ in the body, from the brain to the massa carnea on the sole of the foot. It can vex the pharynx and œsophagus with spasm or globus—close the jaws through cramp of the masseters or temporals, jaundice the blood by its influence on the liver, cause ischuria or diabetes in a moment, bring on constipation or diarrhœa, simulate apoplexy and eclampsia, set the hemispheres in a rage of insanity, or excite the cerebellum to the manifesting of chorea, or abolish the sensorial and motor forces of the spinal marrow; but, if, in the non-gravid condition, the retroverted deviation of the uterus can cause such great derangements, what must be those that attend some of the terrible consequences of retroversion of the gravid womb. They are truly appalling. They consist in all the fruits of complete compression and obstruction of the contents of the pelvis, by the growing womb. Dr. William Hunter describes a case, the first one, perhaps, which was clearly understood, wherein, after the death of the patient, it was found that the womb had continued to expand under the development forces of the ovum, until it had so completely jammed and impacted the uterus into every anfractuosity of the pelvis—arresting the flow of the urine, and the course of the rectum—that the uterine mass could not be extracted through the superior strait, until the ossa pubis were cut asunder by the saw.

This case of Dr. Hunter's was under the care of Dr. Walter Wall, who had studied in Paris, where he had received the instruction of Gregoire. Persevering attempts were made to restore the womb to its natural position; but the magnitude of the ovum, at four months, rendered it impossible to get the fundus above the linea ileo-pectinea. The bladder was filled, so that its fundus was half-way between the umbilicus and the scrobiculus cordis, and the patient died shortly after Dr. Hunter saw her. Dr. Hunter gives very beautiful drawings of the specimen, in his great Tables of the gravid uterus. Before the examination

of the body, he invited many physicians to be present, and gave a lecture on the subject. It was Dr. Hunter who applied the name of retroversion, which is now adopted universally. Many physicians had seen the malady before this time, but I think him entitled to the credit of describing it, and making it first clearly understood.

As to the several signs by which the accident may be made known; they are pain and obstruction, or irritation within the pelvis. You rejoin, perhaps, that other affections are manifested by the same symptoms; and it is very true that simple prolapsion gives pain in the pelvis and in the back, and troubles the course of the urine, &c.; but, in forming your inference as to the existence of a retroversion, upon representations of pain made by the patient, you will address your inquiries in such a manner as to deduce from the history of the attack, a judgment as to its seat, causes, and nature.

For example. I was called some time since to a young woman residing in Ninth Street.

When I presented myself to her, I found her lying upon the bed, apparently in pain. It was afternoon.

"Will you please inform me what it is that has induced you to call for me, madam?"

"I am in great pain, sir."

"Where is the pain situated?"

"In the lower part of the stomach and back."

"You mean in the lower part of the abdomen, I presume; near the shear-bone, or bar-bone."

"Yes, sir."

"How long have you suffered from it?"

"Since the early morning."

"Are you married?"

"Yes, sir, these six weeks."

"What brought the pain on you?"

"I do not know, sir. It came on in the car, as I was returning from New York."

"Have you any difficulty in making water?"

"I cannot make a drop; or, at least, only a few drops pass, with the most violent efforts—and the urgency never ceases; I am suffering dreadfully, indeed."

"Had you ever such an attack before?"

"Never."

"What's your age?"

"Twenty-two, sir."

"Are you regular?"

"No, sir."

"Do you suppose you are *enceinte?*"

"Yes, sir."

"How long?"

"About five weeks."

"And you never felt this disorder before?"

"I never felt anything of the sort till to-day."

"Have you pain in the back, did you say, too?"

"Yes, dreadful."

"Is that pain chiefly felt about three inches above the lower end of the back bone?"

"Exactly there."

"You have a retroverted womb, madam; with retention of urine, caused by it."

"I do not know what you mean, sir."

"I mean that, as you are pregnant some five weeks, the womb is become much larger than it was before you were married; and it is now turned over backwards; in fact, it is topsy-turvy. The pressure of the top of your womb against the lower part of the bowel and the back bone, gives you pain in that situation; while the bottom, or rather the point of the womb, is pressed with force against the bladder of urine, vexing and paining it, and stopping the course of the water, which can only escape drop by drop, while your bladder becomes continually fuller and fuller. It is very full now—it is terribly full."

"Why, what in the world is to be done?"

"You are to allow me to remedy the difficulty."

"How?"

"By replacing the womb in its natural position."

"But how can you do that?"

"With my hand."

"I can't think of such a thing."

"Very well, madam, I shall have to bid you a good afternoon, for I can't think of anything else for you. In fact, there is nothing else to be done for you."

"Why, I'd rather die!"

"As you please, madam; you are the mistress; they say 'ce que femme veut, Dieu le veut aussi;' but I hope you will permit me to say it would be very silly of you to die, for want of the power to make water, when there's a physician at hand, can put you so readily in the way to do it easily."

And she resorted to the ladies' resort—tears. After she had com-

forted herself a little in this way, she came to her calmer reason again, and said:—

"Will it hurt me, sir?"

"Oh no, not a bit."

"What am I to do, then, if I must?"

"You are to lie on your left side, in bed: covered up head and foot, with the bedclothes. You are to draw up your knees very high, and I will cure you in a moment."

I washed my hands; I always do that first. I dipped the index finger of the right hand in oil. With its palp I felt the gravid bas-fond of the womb looking downwards and forwards in the pelvis, while the os tincæ was cocked up against the urethra above the arch. Look again at the wood-cut.

"Don't bear down now, child! don't resist the pressure of my hand! I shall not hurt you at all, not in the least!" And so, by a gentle, steady, augmenting pressure against the bas-fond, pressing it upwards and backwards, I followed the ascending fundus until it suddenly escaped above the promontory, upon which the os uteri looked downwards again, and the organ was reposited.

"Now, how do you feel?"

"Oh, greatly relieved."

"Sit up, and try to make water. I shall retire from your chamber. Call me when you are ready."

In a few minutes she called me back; thankfully telling me she had made a large quantity of water, and was quite well again.

"Is not this, bad as it is, better than dying?"

"Oh yes, sir, thank you!"

"I think so too. Farewell, madam; but let me tell you though, before I go, that if you had made water freely, before you started from New York this morning, you would not have had your womb turned over; for nothing turned it over but the bladder. Your bladder was full when you got up in the morning; you were hurried to the steamer, and it became fuller because you could not relieve yourself in company. There was not room enough left for both the bladder and the womb in their usual places. So the bladder thrust the womb downwards and backwards, until it was overset topsy-turvy. The round ligaments could not hold it up, they had to give way. See here, I have made a drawing of the situation of things. This is the womb overturned backwards. These are the round ligaments, stretched almost to breaking. That's the mouth of the womb turned up here, and compressing this neck of the bladder, which you see is horribly distended with water, that gave you so much pain. As soon as I pushed the womb up to this

point, the mouth of it turned down to this place, its natural situation, and the pressure being taken off from the neck of the bladder, you could easily make water. Do you understand it now?"

"Oh yes, perfectly."

"Take care, then, not to let it get so full again, or it will serve you the same trick a second time."

"Yes, sir."

"Farewell, madam."

"Good-by, sir."

I have given you the foregoing dialogue, as an example of many conversations I have held on such subjects, with the sufferers from an accident.

What inference, other than that I did draw, could I have possibly deduced from her relation? Think over, for a moment, the anatomy of the parts within the pelvis, and you will see that I could not well obtain any other inference than that of an overset of the uterus.

If the patient had replied to my questions, that she had long suffered with backache, and dysury, &c., I might have supposed some other cause than retroverted gravid womb; but as she was young and strong, how could I imagine that anything else could have happened to her pregnant uterus, except that which had really happened to it? There was nothing else to be deemed of it, and so I could confidently say to her—Your womb is retroverted.

You will not expect always to relieve the patient so promptly, nor will your diagnostic always be so correct. This, at least, I have many times found to be the case, as to my own patients; for I have sometimes confidently expected to find retroversion, where there was only prolapsus: and sometimes, where a true anteversion of the organ existed. There are other cases, again, in which the splanchnic neuralgia, that I described in Letter XII. p. 147, has depended upon retroversion, while I expected to discover a simple uterine descent. For the most part, however, you may venture to speak with boldness, upon a clear history of a sudden case, in a healthy, pregnant woman. You may also entertain a very confident reliance in the diagnosis, even in the chronic forms, but, *à fortiori*, in the instances of the accident connected with pregnancy.

If, in any instance, you should have reason to speak confidently on the diagnosis, from this mere external or rational evidence, you would, of course, proceed to verify the opinion by the Touch, should you continue in charge of the case. The Touch should be effected in the usual way; the woman being on her left side, in a flexed position. In retroversion, the os uteri is behind the symphysis, looking more or less ob-

liquely upwards, according as the fundus is more or less completely forced behind the vagina. The fundus, in the non-gravid, is felt as a firm, solid, hemispherical mass, like a great tumor, lying against the exterior surface of the posterior wall of the vagina, which is pushed more or less near to the os externum, according to the degree of the overset. In M. Mayor's case, it was pushed through that wall, which it ruptured, and turning quite upside down, came out through the vulva.

It is true you might here commit an error in the diagnosis—mistaking some tumor formed in, or fallen into the cul-de-sac of the peritoneum, for the overturned fundus; but I apprehend little likelihood of such a mistake, should you trace the cervix from the os uteri to the corpus, and so to the fundus of the organ; the more particularly, as in all cases not perfectly clear you would resort to an exploration through the rectum, or, make the case clearer, by means of the womb-sound.

I said you will not always be able to relieve the patient so readily.

A lady called upon me, many years ago, on account of a retention of urine. I found her pregnant at more than three months, and the bladder making a large painful tumor in the hypogastrium. When I informed her of the probable cause of her distress, she readily accepted my offer to attempt to relieve her of the difficulty.

As the uterus at three months is already very large, I would not make any attempt to reposit the womb while the bladder was still filled with a great quantity of water; for, when the bladder is so distended, I presume it will effectually prevent success in any attempt at reposition, particularly, the womb itself being also very full in such an advanced pregnancy. If the rectum be overloaded, that part of the gut that lies above the overset uterus will be so distended with feces as to aid very materially in keeping the uterus down. Therefore, having drawn off the urine, the bowel should be thoroughly emptied by an enema of salt and water before anything else is done. In the case now under consideration, it was not necessary to resort to this aid. Instead, therefore, of uselessly worrying my patient, I commenced by drawing off the water with a catheter; and I found it necessary to carry the female catheter almost up to the ring before I could introduce the point into the cavity of the bladder, so much was the urethra stretched by the complete see-saw of the womb. By way of parenthesis, I must here warn you that, in these distortions of the organs, you may find yourself disappointed in attempts to draw the urine by a female sound, owing to the great lengthening of the canal. In any such case, you would have no difficulty in reaching the deposit, should you employ a male catheter. I mean a French one.

When I had evacuated the bladder, I proceeded to attempt the repo-

sition of the organ; but found, on thrusting against it with two fingers of the right hand, I could not make it ascend, but that my fingers indented the womb so much, as to expose me to the risk of disturbing the connection of the ovum with the uterine walls, and so of causing an abortion to take place. This reflection induced me to pause.

Here, said I, is a woman pregnant at three months, past; who has suddenly suffered a retroversion, probably brought on by a distended bladder, which, pushing the womb backwards and downwards, has, upon some sudden succussion, shock, or straining by the abdominal muscles, thrust the fundus fairly down below the promontory of the sacrum, which holds it there. But now that I have removed the pressure from the bladder by emptying it, if I persist in attempts to push the womb up again, I shall perhaps break or detach the membranes, or possibly separate a part of the placenta. I will, therefore, do no such thing; I shall hope and trust that the round ligaments have strength enough to pull the womb up from out of its new bed, and set it on end again—the more likely, as I have no reason to suppose they are chronically weakened and elongated. Many samples have been met with of the womb restored by taking off the pressure of the bladder. Dr. Ingleby, in his *Obstetric Medicine*, p. 65, describes a case in which the "womb rectified its position almost instantly after the bladder was emptied." He relates a good success, also, at p. 67, in which the womb remained retroverted at the fourth month of pregnancy, notwithstanding the daily introduction of the catheter for many days; Dr. Ingleby advised that it should be introduced every four hours. In this instance, notwithstanding the fundus was almost down to the anus, and the os uteri was just above the brim—on the third day of repeating the catheterism every four hours, it was restored to its natural position. I therefore explained to the patient the views which led me to desist from troubling her for the present, and promised to observe the case.

Upon calling, many hours afterwards, she had made no water; the bladder was again to be felt, full, above the symphysis pubis, whereupon I used the catheter again; and then renewed my attempts to get the womb up in vain. The attempt to press the organ upwards was resisted by two causes: 1st, the fixed state of the mass, which extended quite across the pelvis; and, 2d, the bearing-down, or tenesmic effort, which was excited by the pressure of my hand.

A person who is on the knees, with the top of the sternum resting on the same plane as the knees, can not bear down. The tenesmic power is either wholly annulled, or so weakened that it is nearly nullified by that attitude. Dr. Hunter's patient was placed in this position, but she was too far gone to enable him to succeed.

I directed my patient to turn on her face in bed; then to draw her knees upwards until the thighs should be vertical, and to keep the top of her breast upon the mattress, so as to have the pelvis elevated to the highest point.

Introducing two fingers into the vagina, and conducting them along the curve of the sacrum, I found I could disengage the womb from its jammed position; and following it as it moved, I had the pleasure to find it escaping towards the plane of the superior strait, while the os tincæ see-sawed down into its proper place in the vagina; and she was relieved. Her retention of urine returned no more; and I attended her at the birth of the child at term.

It is worthy of remark that, two years later, I had to repeat the same process for the same lady, in the succeeding pregnancy, and with equally fortunate results. Dr. Amussat, in his work on retroversion, describes a similar case, in which the accident occurred in two successive pregnancies.

In neither of these cases did I resort to venesection, which Dr. Dewees justly commends as a most important item in the treatment of the rebellious cases. Our celebrated countryman was a bold bleeder, and was accustomed to overcome all obstacles of soft resistance by copious abstractions of blood. I have heard him highly recommend the lancet as a means of subduing the tenesmic resistance that is awakened by the hand of the surgeon, disturbing the tumor. But having found the position above recommended amply powerful for the subduction of the tenesmic force, I with confidence recommend it to you as preferable to large abstractions of blood, which are not indifferent in their prospective influence upon the health.

Should you, however, in any such case, have reason to suppose that the engorgement and irritation are about passing, or have already passed into the stage of inflammatory action, I trust you would not hesitate to resort, in the freest manner, to the curative and conservative efficiency of venesection.

I hope you will see, my young friends, that, in taking the above method of laying before you my views upon retroversion, I supposed that a concise account of the symptoms, state, and cure of some cases would be more efficacious to clear the matter in your minds than the longest didactic and stately detail. These cases might perhaps suffice for the end I have in view, since *ex uno disce omnes* is nearly true. Yet I shall beg to say that you will probably meet with some specimens of the accident that you cannot remedy by any means, and that it would be very dangerous to persist in curing them. Let me speak of them, therefore.

The chronic duration of a retroversion of the womb can scarcely be regarded as consistent with a healthful state of that organ. The distortion, the pressure, the firm and continued contact of parts not designed in nature to be brought into fixed apposition, sooner or later develop an *intertrigo* which passes into adhesive inflammation, and such inflammation is at an end when it has finished its mission of uniting two parts into one by a bond of union common to both. Doubtless many are the cases of retroversion that are thus rendered incurable, and these are the samples against which you should be warned, lest, in your zealous attempts to succeed in restoring the womb to its normal attitude, you should effect some disruption of tissues, the laceration or even the violent tension of which might endanger the life of the patient. Hamlet is very right where, in his soliloquy, he resolves it is easier

> "To bear those ills we have,
> Than fly to others that we know not of."

I speak very confidently as to the confinement of the fundus in the back part of the pelvis by adhesions, not only from opportunities I have had of proving the fact by the necroscopic test, but by circumstances of a case that came under my charge six or seven years since. It was that of a married lady from one of the Western States. In this case, all the usual phenomena of the malady were present. The os uteri was directed strongly towards the symphysis pubis, and the rounded fundus of the womb was clearly distinguishable on examination both by the vagina and the rectum. During several consecutive months, I made various attempts with the hand in both ways to push the fundus upwards; and I also introduced a large globe pessary, in the hope that, by its protracted pressure in an upward direction, it might gradually loosen the ancient attachments of the womb, and thus allow it to recover. I did not succeed to any great extent in repositing the deviated organ; but the patient left this quarter of the country in improved health, and with the organ less impacted and less immovable than when I took charge of the case. I concluded it to be not possible to disengage it wholly from the ties by which it was bound down.

Amussat, *Mém. sur la Retroversion*, &c., p. 27, says: "I have two drawings representing cases of retroversion of the non-gravid womb. In one of them, the subject was an adult, and there was adhesion to the rectum; the other case was that of a new-born child." And at page 29 he gives us the following caution:—

"The consequences of reposition of the retroverted womb are far from being so simple and fortunate as might be supposed, to judge from the three cases under my care. Indeed, in some instances, the manœu-

vres, even careful ones, performed with the fingers introduced into the vagina, have brought on abortion, and in some cases this accident itself has been followed by fatal metro-peritonitis.

"If a female have been the subject of a puerperal or other peritonitis, she may have recovered with adhesions of the womb to the peritoneum behind it. Such a state would not necessarily vitiate her power to conceive. She might even develop the child in a uterus partially retained by adhesive connection within the pelvis, but would be more likely to miscarry as soon as the tractions should become intolerable to the uterus. We have examples of adherent uterus causing death by hemorrhages."

I pray you allow me, at the risk of iteration, to call your attention to the remarks I made in a former letter, p. 145, as to the mode in which the womb changes its position in all the prolapsions. I said the womb falls down along a curved line—Carus's curve—and that, when the os tincæ presents itself at the os magnum, the uterus is lying in a horizontal position across the pelvis. If you do not keep this fact in mind, you will be very apt to mistake a simple prolapsus uteri for a retroversion of the organ; but the cases are very different. In retroversion, always expect to find the os uteri above the crown of the pubal arch, and not beneath it. If I am correct in this view, I differ from M. Colombat, who seems to approve of the opinion stated in the following sentence from page 154 of his work: "The terms anteversion and retroversion have been applied to those cases in which the longitudinal axis of the uterus has been found placed in a horizontal position." If M. Colombat, who is generally a very reliable authority, is right in these words, then there can be no difference between retroversion and prolapsus; since in each case the womb is horizontal in the pelvis. According to my view, you shall always expect, in retroversion, to find the vaginal cervix higher than the crown of the pubic arch; for, where it is at a lower level than that, the case can claim to be only a true prolapsus or retroflexion. I am quite confident that many mistakes are made as to this diagnosis.

Such mistakes are the more easily made where what is called immobility of the womb exists—a case in which the organ refuses to retreat upwards in the pelvis for any allowable degree of pressure except the slow pressure of a pessary, which I have proved capable, in the course of twenty-four to forty-eight hours, of lifting quite high up in the pelvis a womb that I could not venture to start in that direction by any short-lived pressure I could make with the index and medius fingers.

I have not yet made any remarks as to the manner in which pregnancy

operates to produce the disorder in question. I am not at all inclined to adopt the theory that the womb goes over backwards because the posterior half of the organ yields to the growing ovum faster than the anterior half. I have explained how a full bladder may cause the slow gradual occurrence of our disease. But it is more frequently seen to arise in married than in single women. Why is this the case?

You should reflect that the round ligament is from two and a half to three inches long, and that, arising from the angle of the womb, it runs through the abdominal ring to be inserted on the tissues exterior to the os pubis. The non-gravid womb is two to two and a half inches long from top to bottom. When a woman becomes *enceinte*, the growing ovum compels, by its antagonistic expansion, the uterus to grow *pari passu*, in order to furnish a suitable nidus for the ovum. The process of evolution continues for nine months, at the end of which time the summit of the womb is at the scrobiculus cordis and distant some twelve inches from its os tincæ, which is at that period generally quite high in the pelvis. I said the womb is some twelve inches long. For example, on the 14th of June, 1848, I measured very accurately the womb of Mrs. Crider, who died with a disease of the heart, at full term: it was twelve inches long, and eight inches wide. During the whole of this growing state, the ligamenta rotunda continue to exercise their office of forestay of the womb, holding it, or assisting to hold it forward. But, by the end of the pregnancy, your three inches of round ligament have become five, six, or more inches in length. Now comes the labor, which, in some women, requires only half an hour to complete it; and the average of all labors is but four hours. The fundus of the womb in two or four hours goes down, far towards the plane of the superior strait, and continues to condense its tissue, so that in twenty days it is not larger than the non-gravid organ. But if the round ligaments do not condense themselves equably with the uterus itself, what guarantee have we that the womb shall not tumble over backwards as soon as it has become small enough to allow its fundus to subside below the promontory—seeing especially that its round ligaments are left relaxed, elongated, stretched, and offering no opposition to the fall?

You should take into consideration that, though the round ligaments spring from the uterus, and are uterine in textural nature, or at least partially so, and therefore muscular, they have not power of contraction so quick and active as muscular fibres appertaining to the womb proper, and then you will recognize the cause of those frequently observed retroversions that occur in women pale, thin, watery, and relaxed, who, offering no considerable resistance to the escape of the child, are delivered in a pain or two, before the doctor can come.

I do not like to see a woman delivered of her child too easily, for it indicates a feeble resistance, and such a labor is more frequently followed by disorders, especially such as that under consideration, than where a solid and stern resistance can only be overcome by a stout and good long labor, evincing the power of the constitution not only to bear the child, but to get the woman well out of the lying-in. You will find such weak pale women complaining of pains and obstructions after delivery that make you infer a deviated womb. I think, in such case, a physician is in duty bound, even where the signs are doubtful, to ask for the examination, and, if requisite, to assign his motives for such a request. I have a patient whose uterus was retroverted a few years ago, after her confinement, since which time she has had two children. She has had it turned over so many times since, that she now knows perfectly well when the accident takes place, and sends me word. If I ask her if it is retroversion again, she replies in the affirmative, and asks to be relieved. I am sure I have reposited it more than a dozen times. I have never known her to have it in pregnancy, however. She is now *enceinte* about three months, and the organ is in a proper position. I expect, after the birth of the child, that the round ligaments will again be found relaxed, and then the womb will again let its fundus fall down.

When you shall have charge of a retroversion in a pregnant woman, lay it to heart that a most solemn obligation is upon you to treat the case with a conscientious regard to her safety as well as that of the unborn embryo. Such a case is always dangerous. For, to say the least, it endangers the life of the fœtus, and, if uncured, will probably, if not assuredly, cost the life of both parties. This is a solemn consideration, a consideration that becomes exaggerated by the prospect of the most dreadful and hopeless suffering for the patient, if she be badly treated. See the account of a case that I published in the *American Journal of the Medical Sciences*, for July, 1853.

To suffer an abortion is always a risk, but to suffer an abortion brought about by so strained and unnatural a posture and confinement of the womb must enhance the risk immensely; though it is true that, when the uterus cannot be reposited, while the gravidity continues, we are authorized, and even commanded by our sense of duty, to bring on the abortion in order to enable us to save the woman's life, by arresting the further development of the childbearing organ. One may take comfort to himself, however, in the instances of advanced pregnancy in retroversion, by consulting some of the wonderful escapes that are recorded in the books. And I am going to give you the account of

one of them by Dr. Weir, which I quote from Ingleby's *Obstetric Medicine*, p. 72.

"We are indebted to Dr. Weir, of Glasgow, for one of the most important cases of this nature hitherto recorded. (See *Glasgow Med. Journal*, vol. i. No. 3, p. 262.) This patient had taken strong purgatives with the view of procuring abortion. For some days prior to Dr. Weir's attendance, the urine had dropped away involuntarily, and now the abdomen was swollen by a firm tumor, painful on pressure, and occupying the sub-pubic region. The vagina was filled by a tumor regarded as the *uterus* in a state of retroversion, although the uterine orifice could not be reached. This tumor not only pressed upon the bladder, and prevented the free discharge of urine, but nearly obliterated the *rectum* also; yet the bowels responded to the action of medicine. Urine was drawn off repeatedly by the catheter, varying in amount from two to four pounds in the twenty-four hours, and yet the sub-pubic tumor was only partially lessened. The lower extremities as well as the abdomen became œdematous; the tumor in the vagina approached nearer and nearer its orifice; every distressing symptom was increased, and it was now impracticable to pass any description of catheter the requisite distance into the bladder. A smaller quantity of urine was each time drawn away, and the bladder reached considerably above the *umbilicus*, whilst the *fundus uteri* was progressively descending, the *uterus* being ultimately turned almost upside down. About the tenth day from the commencement of the severe symptoms, pains ensued resembling the pains of labor, and owing to the strong action of the abdominal muscles forcing the *uterus* still lower, the introduction of the fingers into the vagina proved exceedingly difficult. The condition of the patient had now become desperate, and it was essential to attempt her relief almost at any risk. The puncture of the bladder (previously contemplated) was abandoned under a well-founded conviction that such a measure would have little or no effect in bringing down the uterine orifice. The puncture of the *fundus uteri* was also suggested, but, prior to its adoption, it was determined to make a last effort to reach the orifice. 'After much difficulty and a great degree of force, and in opposition to the strong and powerful exertions of the patient, I succeeded in getting my hand into the *vagina*, forced up my finger above the pubes, and reached the mouth of the womb. An assistant at the same time got his hand into the *rectum*, and we had thus the perfect command of the patient. By steadily pushing upwards the *fundus*, and cautiously pulling the neck and mouth of the womb downwards, the tumor was gradually raised above the promontory of the *sacrum*, and the *uterus* reduced to its proper position.' A con-

siderable quantity of urine was discharged during this proceeding; the pubic tumor disappeared; labor progressed, and a four months' fœtus, putrid, was extracted about twenty-four hours after the *uterus* had been replaced. Severe abdominal inflammation ensued, which demanded vigorous depletion ere the patient was safe. She perfectly recovered."

Here is another case taken from the 1st vol., p. 217, of Dr. Moreau's *Traité Pratique des Accouchemens.* It was communicated to Dr. Paul Dubois, of Paris, by Dr. Mayor, of Lausanne.

"S. G., an ignorant peasant woman, æt. 32, who had borne three children, being assisted in her last two by her mother-in-law, ignorant as herself, was three and a half months pregnant, when, on the 7th Nov. 1836, she was attacked with wandering pains, though the pain did not prevent her going out about her affairs: She said, in her trouble, *it might be that she would die the next day.*

" Upon coming home about 8 P. M., she went to bed, and was soon seized with sharp pains in the belly and loins, that made her cry out aloud, and which the mother-in-law supposed were forerunners of a miscarriage. This was at 9½ P. M. At 10½, the husband, who was assisting her for some purpose, discovered a large substance escaping at the genitals. Being alarmed by this, and the hemorrhage and pain together, they began to think of calling in a physician. The husband went to the midwife of M——, a neighboring village, who, reaching her at one o'clock, found an enormous tumor outside of the vulva, attended with anomalies so extraordinary that she insisted on having the opinion of an experienced accoucheur. The husband ran to M. C., who arrived at 3½ A. M.

" After some inquiries into the nature of the tumor, the surgeon ascertained that it was the womb in a complete state of retroversion, and he succeeded in pushing it back and restoring it to its natural position. But the woman, who was already in the most deplorable condition, expired at half-past four A. M., very soon after the reduction of the organ."

The patient's death would have passed without remark, as one of the events that sometimes occur in abortion or hemorrhage, had not rumor attributed it to criminal designs.

The authorities, therefore, ordered the autopsy for three o'clock on the 10th, fifty-seven hours after the decease; and Messrs. M. & C., two well-informed and well-known surgeons and accoucheurs, were appointed for the purpose. Their *procès-verbal* contains the following account:—

" The external genitals exhibit nothing peculiar; but, when slightly

separated, they exhibit, at the depth of one-eighth of an inch, towards the fourchette, a ragged wound. The vagina is smooth to the touch, and the neck of the uterus, firm and unengorged, is found resting upon the symphysis pubis. The vagina is very relaxed, and the body of the womb, when raised, is very movable.

"We opened the abdomen, and sawed asunder the ossa pubis in order to obtain a better view of the organs contained in the cavity of the pelvis. The bladder, which was very large and flaccid, containing no urine, was raised above the pubis, and appeared to have been distended; in other respects, it was unaltered, and partially concealed the body of the womb. This organ, pyramidal in shape, was six inches in length by five in breadth. It was soft, flaccid, reddish, and showed several ecchymoses, and small semicircular lacerations, as if cut with the finger nails. Discovering in front of the sacrum, in the peritoneal lining of the pelvis, a transverse wound, we found that the wound communicated with the posterior inferior part of the vagina, so that the vagina communicated with the abdominal cavity. Here, then, was an accidental canal, whose upper orifice was formed by a rupture of the peritoneum, its lower by a laceration of the vagina, and of which the middle portion occupied the lacerated recto-vaginal septum.

"Upon pushing the body of the womb into this opening, we found that it passed without difficulty through the inferior opening near the fourchette; and thus we observed the position of the womb when it was seen by M. C——— during the woman's life."

I shall not cite any of the remaining passages of this case, presented by Dr. Moreau. They consist of stupid interrogatories of the lawyers who were concerned in the trial of the accused. The foregoing are enough to show how great is the power to bear down (τεινασμος,) in a strong woman like this peasant, who, under the irritation of her tenesmus, actually drove the body of her retroverted womb through the posterior strong wall of the vagina, and fairly pushed the whole organ out of the genitalia, the fundus hanging down betwixt her thighs, and the os tincæ looking upwards into the pelvis. It is truly an extraordinary case, and one particularly well calculated to impress your minds not only with just ideas of the serious importance of the malady, but to show how powerful is the resistance a strong woman is able to make to your attempts to reposit, when her tenesmic force is excited, and beyond the control of her will.

It sometimes happens that the surgeon cannot succeed, with the two fingers of the right hand, in carrying the retroverted womb so far upwards, along the curve of the sacrum, as to compel it to rise above the promontory of the bone, and thus be set at liberty from its imprison-

ment in the lower basin of the pelvis. In order to effect this, the fingers are required to be longer than the usual length.

By means of the little instrument, of which the adjoining figure is a representation, you will be enabled to carry it much further than with the fingers. The instrument is made of steel, and it is conveniently curved to suit the form of the back part of the excavation. Conducted along the left indicator finger to the cul-de-sac, behind the vaginal cervix, it may be pressed against the overset womb, which is readily pushed upwards by it. It is also a convenient instrument for drawing down the cervix from near the pubis; that part of the organ being taken hold of by the ring. The whole instrument, from the top of the ring to the end of the handle, is just eleven inches in length.

It is made by Mr. John Rorer, and also by Mr. Schively, of Philadelphia.

As I have found it a most convenient and useful apparatus in the management of retroversion, I heartily recommend it to you.

I beg you to be careful in your diagnosis; always be very careful. If you love your profession, and would keep up its dignity, and your own, do not make mistakes. Do not suppose you have a retroversion, when, instead of that, you are called to a case in which an enlarged ovary has fallen down in the pelvis. Such a tumor might fill up the whole of the space betwixt the sacrum and the bladder, lifting the womb up, and jamming its cervix against the pubis. In such a state of things, should you seek for the os uteri, and find it up at the pubis, and also find a rounded mass thrusting the posterior vaginal wall forwards, you would be in great danger of making a false diagnostic.

The pathognomonic mark of a retroversion is the os uteri not beneath, but *above the crown of the pubal arch*, while the cervix can be traced with the finger backwards to the body, which presses the posterior wall of the vagina forwards and downwards, giving the sensation of a mass of tumor, which is hard or firm in the non-gravid, and softer, or yielding in the gravid womb. If you should, in your early career, meet with a retroverted gravid womb, and make prudent attempts at reposition, after all the preliminary measures have been fully attended to, you might prefer to obviate the inflammatory engorgement by venesection, the bath, emollient cataplasms, anodyne enemata, or doses of anodyne medicines, and very scrupulously attend to the evacuation of the

bladder, in hope of meeting with such success as Dr. Ingleby justly boasts of obtaining in the case I quoted from him.

But when, after consistent attempts, you shall have ascertained your failure, you ought, if possible, to introduce a sound into the os uteri to rupture the ovum, and discharge the liquor amnii. After which, you might expect to succeed in your manipulation by the vagina, or by the rectum. But, as it will in some instances be found impracticable to get the sound into the os uteri, you have the last resource of puncturing the membranes by means of a curved, small trocar carried into the uterus itself. This is a dangerous operation; because, as the peritoneum descends behind the womb on the vagina, you must necessarily make two wounds in it, and thus expose the patient to the danger of a wounded serous membrane, besides that of a wounded uterus. A statement of the circumstances and motives would always, however, leave your skirts clear, provided the circumstances and motives have both been well weighed and perfectly apprehended by you.

Your writers will tell you that, when the womb is reduced or reposited, the woman should lie on a bed with her hips elevated, or some of them advise her to lie as long as possible on the face. As to this piece of counsel, you ought to judge from the circumstances whether you will urge it or no. If the case be one of non-gravid retroversion, the best position for renewing the difficulty would, I think, be the dorsal decubitus; and I should much prefer to lay the patient on the hip, slightly inclined forwards. In the gravid case, if the pregnancy have proceeded as far as the second month, and *à fortiori* if to the third month or more, it is extremely improbable the accident will be repeated if the urine be regularly drawn off, for the uterus is too long to fall over without reluctance and force.

If you deem the case one not unlikely to relapse, you should, if not living near enough to render aid yourself, at the proper seasons, give the patient directions as to the use of the catheter, and instruct her to introduce it every four or six hours, so as to make sure that no bladder-tension shall overthrow the womb again during your absence.

When you can venture to employ a pessary, which you cannot well do in the pregnant female, you should adjust one of sufficient magnitude to produce or extend the vagina. I say extend the vagina, and I say so because there will be scarcely a relapse if you keep the vagina stretched to its full length. When it is so stretched, it carries the uterus upwards, and makes it move upwards coincidently with the curve of Dr. Carus. In order to a first retroversion, I esteem it indispensable that the whole womb should descend, see-sawing backwards; for I cannot imagine a retroversion as taking place with a vagina four and a

half or five inches long. Try the case in your own judgment; think how a womb could be retroverted, while it stands so high up in the pelvis. If you perpend the question carefully, I believe you will decide that it cannot be turned over by the bladder without first descending along Carus's curve, so as to enable the fundus to get down lower than the promontorium, and when once down there, the tenesmus will complete the oversetting of it.

I have many times reposited a non-gravid womb, that had long been retroverted, and placed beneath it one of Dr. Physick's globe pessaries, of two and a half inches diameter. Such a pessary will keep the womb in its place pretty well, for it will thrust the cervix uteri away from the pubis and keep it two inches and a half distant from that bone; but, if the round ligaments have lost all their tone, a full bladder aided by a fit of sneezing, laughing, or of straining at stool, will readily overset it again by forcing the fundus down behind the ball, upon which occurrences the pain immediately recommences, for a globe pessary beneath a retroverted uterus can only have the effect of lifting the os tincæ higher up behind the symphyses. I speak of the non-gravid womb, which you know, is about two inches long, more or less. Moreover, there will arise a great difficulty and frequent failure in the case of retroversions from this, viz: the anterior wall of the vagina, or its anterior columna which extends from the top of the arch of the pubis to the front of the cervix, becomes so condensed and grows so short and stout in consequence of the os lying for months or years close to the symphysis—that it may be regarded as shrunk in its length. If you should let the womb up again in its place, and put a ball under it to keep it there, this anterior columna, which is elastic like India rubber, will be apt slowly to shrink back again, and so pull the neck of the womb forwards over the summit of the ball, and end by drawing the os close to the pubis again. In this event the womb will be retroverted and the woman suffer more than ever, for she has not only a retroversion to plague her, but a globe-pessary besides.

You might well imagine that, when the womb is supported by such a pessary as I have just mentioned, the retroversion might take place upon the *emptying* of the bladder—because, as the posterior wall of the bladder comes nearer the pubis the less the water within it, so the anterior face of the womb, which is attached to it, must also approach the pubis; and being only two inches in length, and without support from its ligamenta rotunda, would readily tumble over backwards. I say that this is, to my knowledge, the case; and I say so, being grounded upon observations made, over and over again, especially in three individuals, whose names I have no right to make public. In all

these women, I have reposited the uterus completely, and it has fallen over again immediately. I have reinstated it, and again it has become displaced: nor could I get it to stay *in sitû* until I had supported it at a great height by means of Dr. Blundell's stem pessary.

I have, in fact, come at last to the conclusion that, in one of those exceedingly relaxed cases of round ligaments where the womb falls over as soon as you put it up, it is pretty much a hopeless task the attempting to sustain it by any other than the stem pessary or the annulus. Yet, in a case where the uterus does not at once turn over again, after being reposited, I conceive the globe very convenient, safe, and sure.

If you prefer to make use of Dr. Dewees's disk, you can do so; but I apprehend a careful inquiry into the relative power of elvation of the two sorts of pessaries will bring you to the conclusion that a two inch globe will lift and hold the womb much higher than a three inch disk-shaped instrument. As for the sponges and other horrid conceits of the sort, they are too detestable to be thought of. I disapprove of the glass ones. When strong, they are too heavy; when light, too frangible. A cork pessary is bad, because the wax that covers it comes off, and leaves the rough cork in contact with the parts. Such contact is dangerous—it is ulcerative.

A very excellent pessary, and one very suitable for certain cases where you do not like to give the patient great pain by excessive dilatation of the ostium vaginæ, may be made with a bit of watch-spring, as I have stated at page 196. Let your watchmaker take a piece of watch-spring about one-eighth of an inch wide and nine and a half inches long, or any other length you may prescribe—let him bend it into a circle of $2\frac{1}{8}$, $2\frac{1}{4}$, or even $2\frac{1}{2}$ inches in diameter, and secure it by two or three delicate rivets. Wrap the circle, or *serve* it with narrow tape, or bobbin, or twine. Let the wrapping or serving be very close, and see that there be enough of it.

After having made a ring of it in this manner, dip it in hot bees-wax, so as to let the wax penetrate the wrappings completely. Then dip it again and again until it is sufficiently covered. Make the wax surface smooth, and the instrument is ready for use. Its elasticity enables you to compress it in any diameter, and it may be inserted without giving pain. Adjust the sacral segment of the ring in the vaginal cul-de-sac behind the cervix, and let the pubal segment rest behind the pubis, on the urethra. This will keep the vagina strained backwards to a place near enough to the sacrum, and the womb cannot again prolapse and turn over.

If, instead of wax as a coating, you prefer gutta-percha, you have only to dissolve gutta-percha in chloroform and steep your served ring in the

solution to get a very durable and excellent coating for the ring; it will last like a telegraph cable, whose metallic wires are protected by a coating of gutta-percha.

I have written you a very long letter on retroversion, perhaps too long; and yet there remain many things I could say. Let us recapitulate, before I close, some of the opinions expressed in this letter.

1. Retroversion consists in the turning of the top of the womb over towards the sacrum. The fundus uteri dips down into the hollow of the sacrum, and the posterior surface of it comes into contact with the posterior surface of the vagina, which it presses forwards and downwards towards the os externum, making a tumor there. The os uteri is directed up against the bladder, which it pushes against the symphysis pubis.

2. It causes dysuria, or retention of urine; or at least micturition. It also gives rise to pain in the course of the round ligaments and the ligamenta lata. It is attended with pain in the region of the sacrum, loins, and kidneys, and there is a sense of weight, pressure, or bearing-down in the hypogastrium and pelvis.

3. When it occurs in the pregnant woman, it is fraught with danger both to the mother and child. If uncured, the mother is likely to be the victim of a dreadful death, from pain, inflammation, and from total obstruction of the pelvis.

4. The more advanced the pregnancy, the more dangerous the accident.

5. It is a diseased or debilitated state of the round and the utero-sacral ligaments that gives rise to the disorder. The cure consists in the restoration of the health and tone of those ligaments.

6. It is in some cases incurable, from adhesions tying the womb down in the excavation.

7. It should be treated—1st, by evacuating the bowel; 2d, by drawing off the urine; 3d, by repositing the womb; 4th, by supporting the reposited womb with a pessary; 5th, by carefully enjoining an attention to the state of the bladder, which should never be allowed to get too full.

8. Lastly, I ask you why a pessary should be able to cure the round ligaments? I am sure of your answer. It is this: Every tissue of living beings that is not compelled to extend has a tendency to condense or contract itself. This is true, whether of muscle, cellular tela, lung, skin, and all the rest. While the round ligaments are extended by an overturned womb, they cannot become shorter, they cannot exert their natural tendency to condensation. To lift up the womb, and keep it up, to empty the bladder, and prevent it from being overfull again, is

to give to the round ligaments an opportunity to act out their nature—that is, to regain their natural length, strength, and tension—which is effected by time, by tonics, by wholesome food, and by whatever tends to consummate the state which you call health. The same is true as to the ligamenta utero-sacralia. Take care that, when they do recover, they go not beyond the state of recovery, and, contracting too much, bring on the very antithesis of retroversion, I mean an anteversion of the womb, which shall be the subject of my next letter.

Farewell. C. D. M.

LETTER XVII.

ANTEVERSION OF THE UTERUS.

Gentlemen: The state of the uterus described in my last letter under the title of retroversion is much more common than its opposite, the anteversion of the organ, a case in which the fundus is drawn or pressed towards the bladder of urine, and permanently maintained in that position. In such circumstances, the external signs are perhaps not different from those that attend upon the retroverted state; consisting chiefly in pelvic pain, misery, bearing-down sensation, micturition, and pain and weakness of the lumbar and sacral regions, which are increased by exercise and by a standing position. I do not think that I should be able, from any complaint, or relation proceeding from the patient, certainly to discriminate between the affections attendant upon the anteverted and the retroverted state of the organ; nor do I suppose that any physician could correctly and confidently make such a discrimination, except upon information acquired by means of the TOUCH—I mean, in a non-gravid woman.

I said that the anteverted is not so frequently met with as the retroverted deviation. I am, indeed, of opinion, that it is a rare malady, for, in more than thirty years, I have had few opportunities of observing it, whereas I have met with a very considerable number of the contrary sort; a number so great, that I think it very much exceeds in proportion simple prolapsus, as to frequency of occurrence.

The anterior face of the non-gravid womb, except the surgical neck, as high up as the middle of the corpus uteri, is in contact with the bladder; which, as I remarked in my former letter, pushes the womb backwards when filling, and draws it forwards towards the symphysis

pubis as it becomes emptied; the round ligaments being put upon the stretch in the former, and completely relaxed in the latter process.

The only natural anatomical power that can draw the fundus uteri to the pubis is to be found in the bladder of urine; for the round ligaments do not, as a physiological act, draw the womb nearer to the pubis than the middle of the pelvis, where it ought to be coincident, as to the direction of its axis, with a tangent of the curve of Carus; whence it appears to me that, in all cases where the fundus uteri is permanently and unnaturally drawn against the bladder and near to the pubal bone, we must resort to one of two modes of explanation of the occurrence, one being that it is pushed there by some body lying upon and behind it; and the other, that it is drawn or pulled in that direction by the ligamenta rotunda, which have become so short as to prevent the womb from retreating towards the sacrum when the bladder, being full, tends to send it off in that direction. Here, then, are two possible causes of anteversion; one, pressure from above or behind; and the other, traction or drawing from before.

Now, the causes that might act on the organ from above and behind it, are tumors fallen down into or developed in the superior parts of the pelvis, which, by their weight or volume, compel the uterus to assume a sort of horizontal attitude, pointing the os uteri backwards, and the fundus forwards; or, the compressing cause may consist in a tumor, or tumors developed on the superior and posterior parts of the corpus and fundus uteri, extending backwards in their growth, until meeting with a *point d'appui* on the back part of the pelvis, and unable to extend further in that line, and continuing to grow, they always find space by thrusting the organ from which they spring towards the bas-fond of the bladder.

Doubtless, such may be the true rationale of some of the cases; yet, admitting this to be true, it is still clear to me, that a contraction of the ligamenta rotunda is much more generally the cause of anteversion. I can form no other conclusion from my own observations, and, on several occasions, I have had opportunities to test the thing in my practice, by having, in some of the samples, in vain tried to push the fundus off from the vicinity of the pubal symphysis with one or with two fingers, introduced far upwards behind the shear-bone. Upon making such attempts, and having failed to move it out of its fixed position, I have been obliged to adopt the opinion that the womb was tied down by a contraction or condensation of the tissue of the ligaments, so often named. What other opinion, indeed, could, or can be reasonably adopted in a case where the most careful exterior palpation clearly proved that no tumor, fallen from above, or developed behind the womb,

had pressed it against the front bone of the pelvic cavity? I saw to-day, June 10th, a case in which the womb was jammed hard against the pubis by a tumor in the pelvis.

It is pretended that either the front, or the posterior half of the womb, may, by some vicious condition of the development force, grow to so great a size as to overthrow the womb, either in a backward or in a forward direction.

I have not had any opportunities of seeing such samples, and cannot, therefore, speak from experience as to such causes of anteversion. I may, however, say that I have met with several cases of unequal lateral development of the uterus, giving to the organ a tendency to fall or become oblique to the right or the left side, according as the right or as the left symmetrical half of the womb was the larger.

Dr. Tiedemann showed me two or three such specimens in the Anatomical Museum at Heidelberg, in 1845, and I have had two such in my own collection. It should be observed, that as the uterus orignally consists of two symmetrical lateral halves, we might reasonably expect to meet with such unequal developments occasionally. It is probable the other sort, or that wherein the anterior and posterior halves are so unequally developed, must be, from the nature of the embryogenic development-law, much more rarely observable. Allow me to repeat, that I have not met with a great many instances of anteversion. In all that I have met with, however, there has been left upon my mind, after careful exploration, no doubt as to the shortening of the round ligaments; and why not? Is not the round ligament very subject to disease? It is often inflamed after parturition, so as to constitute a cord as large as the forefinger of a man, or even as large as a thumb, very painful upon pressure, and traceable in its course not only through the abdominal canal, but backwards towards the angle of the womb, through the thin integuments of a scrawny woman. I have met with several samples of this sort, that I have been obliged to treat by leechings, fomentations, cataplasms, and by small doses of tartar-of-antimony-and-potash.

Morgagni, in his forty-fifth epistle, tells us, that he found them so in his dissections. He regards them as constituted chiefly of blood-vessels; but Velpeau considers them as endowed with a considerable portion of muscular fibres. I deem it quite reasonable in M. Velpeau to hold such an opinion, since, as they spring directly from the womb, and proceed to be inserted upon the exterior of the pelvis, they could not but carry with them a texture like that of the womb, as well as like that of the Fallopian tubes, of whose muscularity no doubt can be entertained.

Seeing, then, that the womb naturally rests on the top of the vagina; that it is wholly without attachments on its posterior face; that it has none but those of the two ligamenta lata on its sides, and that its only connection in front is a partial one to the bladder, and viewing its sustentation by its round ligaments, we cannot doubt, when we find it held firmly against the pubis, of its being held there by means of some tumor behind or above it, or by a pair of contracted ligamenta rotunda; contracted, I say, either by a simple process of hypertrophy, by the consequences of inflammation, or by some spasmodic innervation of its muscular fibres.

To cure it, we must push the top of the womb off from the vicinity of the pubis; we must cure the ligaments of their hypertrophic or inflammatory vice.

It is possible that Dr. Grauiex's seton, mentioned at page 74, Letter V., might profitably be applied to the subduction of the morbid activity of the ligaments, and in any case where the pessary and other means of countervailing pressure should be deemed inadmissible, I hope you would take into consideration the question of this especial seton. You are aware that the seton, in a cure, is like money in the funds; it works while you are asleep, it works day and night, for weeks, and months, and in general, only well, only with beneficence. I advise you to think of the seton, therefore. I confess I have not met with the case that I have deemed suitable for its trial, but I should certainly recommend it to a patient of mine, whom I should deem likely to be benefited by it.

The pessary, after all, is the most probable and most convenient remedy.

A globe of two and a half inches will lift the uterus very high upwards in the pelvis. Its action must be to push the womb upwards and backwards, and therefore to resist the contractility of the round ligaments. But, by resisting it steadily, gently, and protractedly, it will at length draw them out, elongate, stretch, or restore them to their due and normal length; which, being done, the globe may be removed, and the filling of the bladder entrusted with the business of maintaining them at their proper longitude for the rest of the patient's life. Such a patient, even while under treatment by the pessarium, should be advised to keep her bladder pretty full. A bladder of urine, containing sixteen or twenty ounces of fluid, would be a very powerful antagonist of the contraction of the ligamenta rotunda. This is one of the cases in which a mere verbal order, or talking explanation, will not answer your purpose. You ought to take out your pencil, and, making an intelligible sketch of the parts interested in producing the inconvenience, show to the woman, and convince her of it, that, unless she will carefully push the womb away from

the pubis, by filling her bladder quite full every day, and more than once a day, she need not very confidently expect to remain cured, even if you should cure her.

Before I close this letter, I must take occasion to say that Mr. Warner, whose name I mentioned before, makes for me an egg-shaped pessary, larger than a hen's egg. He can make them for you of any ordered size. I have found this oviform pessarium very useful in anteversions. I adjust it with the lesser pole of the egg directed to the os tincæ. The greater pole is in the lower part of the vagina, just above the grasp of the sphincter. I think such a shaped instrument serves to stretch the ligaments more effectually than any other.

There is a state of the womb called flexion of the womb, which may be either a retroflection, or an anteflexion. In this condition, the organ is bent, either forwards or backwards, and the bend, or angle is found in the neck.

Madame Boivin says the flexion is found at the junction of the cervix and corpus; and she is a great authority. I have seen, and I possess one such specimen; but this is the only one I have seen; whereas, I have met with a considerable number of instances in which the bend took place in the true cervix, far below the corpus, and sometimes in the vaginal cervix itself. I have now under treatment a young married lady, in whom the vaginal cervix is bent very nearly at a right angle to the long diameter of the womb, whose fundus is strongly held by a contracted state of the round ligaments, close against the pubis. In those cases of diseased uterus wherein we find the womb grown solid, or hypertrophied, and as large as the healthy uterus at four or five months of pregnancy, we rarely fail to find the cervix bent like a retort neck.

I do not know any general signs by which flexions of the womb can be diagnosed, save those discoverable by the touch, and they are so clear as hardly to be worthy of description. Everybody knows that the womb is straight; and where it is found bent into a curved or an angular form, it is a case of flexion; anteflexion, if the re-entering angle is forward, and retroflexion, if the salient angle is turned towards the front of the excavation.

Many women have the cervix uteri very slender; some of them are not bigger than the little finger. Now, if a woman with such a slender, flexible, and weak cervix, should have some degree of descent of the womb, it might happen that the long slender cervix, being driven, or having descended far enough to rest upon the posterior part of the pelvis, or even on the posterior wall of the vagina, should bend with its own weight and any superadded weight, so that the cervix would cease

to be straight; but, become curved or angular; and, after being kept so for many months, would acquire such a form as its permanent character.

I deny not that other causes besides direct pressure might give to the cervix uteri this distorted appearance; such causes might be intrinsical ones, depending on unequable development of the posterior or anterior half of the cervix, causing the anterior or the posterior half to be either too short or too long. Such an unequal development would certainly bend it. There can be no doubt that such is the case as to those lateral curves that I spoke of in a former part of this letter, as having been shown to me by the good Professor Tiedemann at Heidelberg.

I do not know that these curved or angular conditions of the cervix are, in themselves considered, to be esteemed as matters of any very great consequence. I have not any reason to suppose that they cause the patient to experience any pain, or any distress. My opinion is that they are chiefly to be regarded as signs and accidents of a displacement of the womb, and that the indication is to support the womb, which being done, the curve will disappear. However, it should be observed that, if the curve is a development fault, no lifting up of the uterus will be likely to do any good, so far as the curvature is concerned.

It is probable that, where this curve or angle of the cervix uteri exists, there will be little probability of the womb ever becoming fruitful. To cure it, will be perhaps to remove the barrenness. I say this, though I am aware it has been asserted that curvatures are met with, even in the pregnant female. I deny not that Baudelocque may have met with curvatures in the gravid womb, but I do contend that any such curvature is a very different thing from the angularities we are speaking about.

You may see in the plate 11, figures 15, 16, 20, and 21, of Wigand's *Geburt des Menschen*, 2d edit. by Dr. Froriep, samples of this distortion in the gravid uterus, but they are all lateral curves; and I pray you to remember that symmetrical halves are governed by laws quite different from those that rule over opposite halves, at least in all the true Zygozoars. Wigand says of these unequal sides: "Die prädisponirende Ursache dieser sich so almälig und erst während der Geburt, und selbst bei der normalsten Kopf-oder Steifslage entwickelunden schlecten Configuration des Uterus, scheint auf einer gewissen abnormen angebornen structur-oder Entwickelung der Bewegungsfasern der Gebärmutter, und einer daher ruhrenden krankhaften Neigung derselben zu partiellen, unregelmässigen Contractionem zu beruhen."—*Geburt des Menschen*, p. 75.

The predisposing causes are, in Wigand's opinion, to be sought for in a certain original deviation in the structure or development of the muscular fibres of the uterus, and a consequent tendency to partial and non-coördinate contractions in labors.

But, after all, I deem there is but little profit in so much discussion; the gist of the matter being essentially the cure. But how to cure it! Some have proposed to pass up a small spatula of wood (it might be well denominated a peg), into the canal of the cervix, to straighten the bent cervix, by leaving it *in sitû*. Such a process of spitting or skewering the womb appears to me dangerous. The more especially, as I have always found that when I had straightened the cervix with the pressure of my fingers, it would always immediately recover its curvature with a spring, as if made of caoutchouc.

To wear such a skewer or peg as has been proposed would be merely to hurt the woman, not to cure her womb; pray don't try it.

But how to cure it! that's the question. I do not know any other method than lifting the womb up. If it be a case of anteflexion, lift up the womb to stretch off the ligamenta rotunda; if a retroflexion, raise up the womb to let the ligamenta rotunda contract, and condense themselves. You see that the pessarium is, in this case, in the same predicament as the Satyr's guest on the mountain, who blew his fingers to warm them, very reasonably, and then blew his porridge to cool it, which was also quite a reasonable action. Don't you, like the Satyr, turn him out for blowing hot and cold with the same breath. That Satyr was but a Satyr at best. What reason, then, had Father Æsop to expect philosophy in such a beast, or to set him up as an example of wisdom and justice? If it be a retroflexion, use a large globe: if it be an anteflexion, take an oviform pessary of silver gilt, and choose one as large as a Normandy hen's-egg; adjust it, so that the lesser pole of the egg shall look towards the uterus, while the larger pole shall lie in the lower segment of the vagina. I have found such an one efficacious in pushing off the uterus from the bladder, and at the same time in producing or elongating the tube of the vagina.

I said, in a note to Colombat, p. 150, that I had met with but one sample of the true anteversion of the womb up to the date of that writing, which was nearly three years ago. Since that, I have met with several cases of anteversion.

I had seen many instances in which the vaginal cervix was angular, either in the anteflexed or retroflexed form; but they were instances derived evidently from the pressure of the flexible cervix against the posterior wall of the vagina, and did not interest the principal portion

of the long axis of the uterus; probably such cases scarcely deserve to be classed among the true anteflexions of the organ.

I shall say nothing in this letter as to the lateral obliquities of the womb. I shall probably advert to them when I come to speak with you on the disorders and accidents of pregnancy. In my next, I shall offer you some observations upon inversion of the womb, several samples of which have fallen under my notice.

I am, &c., C. D. M.

LETTER XVIII.

INVERSIO UTERI.

Gentlemen: The term Inversion of the womb is used to express that state in which the uterus is turned inside out; as a stocking or a glove is turned inside out by drawing it off the foot or the hand.

Dr. John Green Crosse, of Norwich, in England, published, in 1845, an 8vo. volume, Part I., entitled *An Essay, Literary and Practical, on Inversio Uteri*, which is so full of learning, research, and that practical good sense which distinguishes all the writings of that able gentleman, that I am under no little temptation to give you the whole of it as a letter; but I should, in that case, violate the rule laid down, to render this volume as nearly as possible an original one. I shall, therefore, only advise you to take the first opportunity to read Mr. Crosse on the subject in question. Doing so, you will learn that he says at p. 8:—

"Inversion signifies not only a turning inwards of the uterine walls, but a turning inside out of the whole organ, by its passing successively through the os tincæ, converting the lining mucous membrane into an exterior covering of the uterus, and creating a new cavity, which is lined with peritoneum, and communicates superiorly with the cavity of the abdomen."

Mr. Crosse, in another paragraph, says: "Inversion of the uterus is either partial or total; the latter can exist only in one degree, and admits of no subdivision. Partial inversion, on the contrary, comprises very many degrees, and there are both physiological and practical reasons for noticing and describing three, by way of classification, namely: *depression*, *introversion*, and *perversion*.

Such are the divisions of our malady proposed by Mr. Crosse; after which, he goes on to show that depression, which is the slightest degree

of partial inversion, is present when any portion of the entire thickness of the walls becomes convex towards the cavity of the uterus. Introversion, is the case where the depression has gone so deep as to bring a part of the fundus within the grasp of the portion of the uterus into which it is received. Perversion, is when a portion of the fundus projects through the os tincæ.

This, then, is Mr. Crosse's classification, which, as you perceive, furnishes easy terms of communication, whenever, in conversation or in writing, you desire to treat of the several degrees of the accident in question. It serves, also, to keep in remembrance the fact that, where the womb is in danger of inversion, that danger may be greater or less, according as the accident has proceeded to a greater or less degree.

You may know that the womb is inverted by several signs; which are, pain, hemorrhage with its attendant phenomena, absence of the uterus from its usual place, a tumor in the vagina, or in the womb, or depending outside of the vulva; also, by a concavity felt in the fundus of the womb, instead of its natural convexity ascertainable by palpation of the hypogastrium.

The causes of inversion are chiefly to be found in improper or accidental tractions on the cord in childbed. They are improper whenever an ignorant person takes hold of the umbilical cord, to pull forth the after-birth, without first ascertaining that the womb is contracted: the accidental causes are such as where too short a cord inverts the womb which has just forced the child into the world, being aided in its expulsive power by the contraction of the abdominal muscles: or where a woman is suddenly delivered while standing upon her feet, or in rising from the close stool; in such a case, the fall of the child towards the floor is apt either to break asunder the cord, or, if the uterus become suddenly relaxed, draw the adherent placenta, still attached, and the whole fundus and body, out at the genital orifice.

A womb may also be inverted by rudely pressing or kneading the hypogaster with the hand in order to enforce its contractility. To press rudely, in this way, upon the top of the fundus, and immediately exhort the woman to bear down, is not very safe; since, if a *depression*, as Mr. Crosse calls it, should have been produced by your palpation, and the woman should at once begin to bear down, she would probably convert the depression into an *introversion*, then into a *perversion*, and so, at length, into a complete inversion. Even the act of straining at stool, or at urine, after the delivery of the placenta is completed, might suffice to cause an inversion, provided it should be done at a moment when the womb is lying within the belly flaccid, and loose as a wet bladder. I have found the womb to fall down, as it were, spontaneously, seemingly

because it was destitute of any solidity capable of resisting the ordinary pressure of the abdomen, even when not under a tenesmic irritation.

A polypus, or other tumor, growing within the cavity of the womb, comes to be so large, in the course of time, that it passes out of the circle of the os uteri, and takes possession of the vagina. Here is naturally set up a powerful uterine tenesmus; the depression makes its appearance, the introversion follows, and so from step to step the patient lapses into true complete inversio uteri.

The diagnosis of inversion, in its different stages, is not without great difficulty in some of the cases. It is so in reference to the similarity of the appearances presented by certain of the fibrous, and even by some of the cellular polypi, to those exhibited by the inverted womb; and as this special diagnosis is not only a very difficult but a very important one, I beg that you will always seriously incline yourselves to great cautiousness and slowness, before you make, and especially before you announce your opinion of any such case.

Where you are called in to witness, and give counsel or aid in an inversio uteri that has just taken place, you can have no difficulty in making a correct opinion. But in those that have happened long before, and in which the womb, though inverted, has recovered nearly its non-gravid size, take, I beseech you, very great care not to make a mistake; don't think you are dealing with a uterine polypus, when you in fact are dealing with the womb itself; because, when people deal with a polypus, they cut it off; when they deal with the womb, they let it alone, which is a very great and a very important difference.

I repeat, that it is difficult, in some of the instances, to discriminate between the inverted uterus and the polypus uteri, and I have seen very sensible and distinguished physicians make great mistakes about it. In neither is there an os uteri to be felt; they are both reddish-looking, softish, bleeding, rather insensible masses, about as large as the larger end of an egg, save when the polypus is larger; I mean in the chronic forms.

In the winter of 1848, a medical gentleman attending a woman here, found, as he supposed, that she had inverted her womb, which he discovered lying betwixt her thighs, being held closely and firmly up to the vulva. He tried to reposit it in vain, and then called in an accoucheur for aid. This gentleman also vainly tried to restore the inverted organ, which was bigger than the largest neonatus head. Upon his relating the case to me, I said there is a mistake; the woman could not possibly invert a non-gravid womb, and your womb is not a womb, but an im-

mense polypus, which she has expelled, and which is held fast by its pedicle.

My friend would by no means admit my reasoning, but insisted that he was right. How could he be right? I went to see it, and showed it to be a polypus. Neither the gentleman nor his friend the accoucheur would give up his opinion, and a surgeon was called in. He also thought it a womb, but it was finally agreed to pass a double ligature through the pedicle, and, tying it twice, to cut off the pendulous mass. This was soon done, and the dissection of the lump showed it to be an immense cellular polypus—now in my collection. You ought never to make such mistakes in your diagnosis.

In passing the finger or two fingers upwards in the vagina, a ring like what the French call a *bourrelet* is felt, through which the tumor passes outwards into the cavity of the vagina. If you look at such cases through a multivalve speculum uteri, you will scarcely be able from the sight to discriminate betwixt them, as being polypus or inverted womb.

You must carefully gather the whole history of the case, as for example by the following method:—

"What's your name?"

"A. X."

"How old are you?"

"Twenty-six."

"Are you married?"

"Yes, these eight years."

"Had any children?"

"Three."

"When was the last one born?"

"Six months ago."

"Any trouble or difficulty at the birth?"

"Oh yes, I flooded dreadfully."

"Who attended you?"

"Mrs. Lucina."

"How was it with the after-birth? Did it come away soon?"

"No, sir, it was a long time coming."

"Did it hurt you?"

"I guess it did, indeed! She pulled me so hard, I screamed till you could have heard me a square off."

"Well, what happened next?"

"I don't know, for I fainted away, and was a long time so weak, that I cannot tell what happened."

"Did you flood very much?"

"Flood! why I was fairly covered with blood."

"How long before the discharges stopped?"

"Why, it's never stopped in fact; for I am more or less unwell every day, especially if I do any hard work."

"You look very pale."

"Bless your heart, I used to be as red as a rose."

"Have you any appetite?"

"Yes, pretty good, thank you."

"How are the bowels, regular?"

"Oh no, quite costive."

"Any trouble in making water?"

"Very much; often obliged to go, and to get up o' nights. It's a great trouble to me."

"You must let me examine the case; I can't tell what it is except you allow that."

"Well, I suppose if I must, I must. But don't hurt me."

"Not in the least, not at all."

Now let the patient lie down on her left side, with her buttock near the edge or foot of the bed, her thighs at right angles to the trunk, and the legs flexed; a pillow betwixt the knees. Wash your hands with soap and warm water; 1st, to cleanse them; 2d, to soften them; 3d, to increase their tactile sense, for you ought to have that sense in its highest perfection. Anoint the index with oil, and Touch the patient.

The tumor is as large as an egg, and contained within the vagina. It is pyriform or ovoidal, and gives no pain. Push your index up along the root of the tumor to a sort of circle or cul-de-sac, which prevents the further advance of the finger. Touch it all round the tumor, in front, behind, and on the right and left. Introduce a Sedillot's catheter, or Simpson's womb-sound, and push the end upwards through the encircling bourrelet, to ascertain how high it will go, and whether it will go equally high all round the neck of the tumor. If it will go high on one side and not near so far on the other, the inference is that you have not under care an inversio uteri, but a polypus uteri. If it go equally high all round, and not very high anywhere, the inference is strong in favor of an inversion.

Now insert your Sedillot into the urinary bladder, after having put a cork into the outer end of the silver tube to prevent the urine from escaping. Keep it there while you pass the indicator of the left hand into the rectum, very far upwards. Then, taking the catheter in your right, turn the concavity towards the sacrum, and with your finger bent forwards towards the pubis, try to meet the point of the sound; surely, if in a case of inversion you will do this, you cannot fail to ascertain

that no womb is to be found between the points of the finger in the rectum and the catheter in the bladder, and therefore the tumor in the vagina is the womb inverted.

It was inverted at the time of her confinement, six months ago. Mrs. Lucina inverted it by pulling at the cord before the placenta was detached, and either did or did not know what she had done. The hemorrhage was terrible. The woman ceased to bleed, and did not die, because she fainted so badly that the vascular injection by the heart was too feeble to kill her by hemorrhage. She slowly recovered in a measure, but bleeds still upon the smallest excess of exercise or labor.

Well, now, my young friend, you have made your diagnostic; what are you to do for the patient? Will you reposit or reinstate this womb? You can't. You might as well try to invert one of the non-gravid uteri on my lecture-room table as to reposit this one. The time is gone by. You have no art or skill, nor any power equal to the performance of such a miracle of surgery as that.

I can with difficulty conceive of a more dreadful condition for a lying-in-woman than that in which she is placed by a total inversion of the womb in labor. For example—here is a case that I have already published in my *Practice of Midwifery;* but which I think it right to republish in this letter. It is the case of Mrs. S., in S. 7th Street, which occurred in June, 1831.

It seems that, having on both the preceding occasions suffered severely from the method adopted by the physician in removing the after-birth, and supposing that a midwife would deal more gently with her, she engaged an old woman much accustomed, as it was said, to the care of women in labor, to attend upon her in this confinement. The child was born by a very easy labor, but the after-birth not coming away so promptly as was desirable, tractions were made upon the cord, which caused the after-birth to come into the vagina. This gave the patient exquisite pain. The midwife, who could not understand why the woman should suffer so severely, made haste to draw the placenta forth by the cord, which made her cry out so loud that it was said her voice was heard in the street. When the mass came away, the good woman found it still adhering to something: she could not take it up and put it into a basin. She therefore continued to pull at it with great force, not knowing that she held in her hands the after-birth still adhering to the fundus of the womb, which was now completely drawn forth and turned inside out. The hemorrhage was enormous, and the patient soon sank into the extremest weakness and exhaustion. Half an hour elapsed before she thought proper to confess her incompetency to manage the

case. I was sent for, after she had acknowledged her ignorance of the method of proceeding, and when I arrived the patient was without pulse, very cold, suffering the extremest distress, with constant jactitation, and a thirst that was unappeasable. To all appearance the woman was in the agonies of death. I found the globe of the womb hanging down full half-way to the knees, and still invested with the placenta and membranes, except where they had been torn and broken by the attempts of the midwife to pull the entire mass away, uterus and all.

I endeavored to push the whole womb and placenta back into their natural position, but finding I could not succeed, I sent for my venerable friend Professor James, who speedily arrived. Dr. James now made an attempt to reposit the womb, but he also failed. By his advice I wholly removed the placenta, but could not force the uterus up into the pelvis.

In making the attempt to restore it to its place, I followed the method recommended in the books, that is, I compressed the organ in both the hands in order to reduce its size. At last, I observed that the more I handled it, the firmer and harder it became ; in short, that I excited in it the after-pains, just as we excite them by frictions on the hypogastrium after the child's birth. I therefore inferred that the proper way of proceeding would be to let it rest, and as soon as the relaxation of the organ should be complete, as it is in the intervals between the ordinary after-pains, to endeavor to indent its fundus, like the bottom of a bottle, and then carry it upwards. I found, upon observing it, that the womb repeatedly expanded or relaxed, and then contracted again, being soft in the former and hard in the latter state. Taking, therefore, the moment of the completest relaxation, I indented the fundus with one finger, and as it became more and more concave, I applied each of the fingers in succession, until I found that its further progress upwards was impeded by the os uteri, which, although it was completely inverted, yet resisted for some time the attempt at reposition of the womb. By a resolute perseverance, I finally had the pleasure to overcome the resistance of the circle of the os, and the peritoneal surface of the fundus was at length pushed upwards beyond the os uteri, and the womb was completely restored to its natural position, but still contained my hand, which was now up as high as a little above the umbilicus. As no contraction came on immediately, I retained possession of the cavity of the womb, which I gently excited by moving my fingers within it, until finally a contraction came on which I suffered to push my hand out into the vagina. Upon withdrawing the right hand, I felt with the other the womb very firmly contracted in the lower belly, and enjoyed the satisfaction of complete success in this distressing case.

I have said nothing of the brandy and volatile alkali that were given to the woman to keep her from dying. She took a very large quantity of these articles, besides laudanum, before I left her, which I was obliged to do in order to attend to another patient; and I feel under great obligations to my friend Dr. George Fox, who came at my request and took charge of Mrs. S. for the remainder of the time that she continued ill. Her situation, when I gave her up to his care, was nearly desperate, from anemia; nevertheless, by the administration of proper restoratives and the judicious exhibition of stimulants during several hours, she, under his good and wise care, rallied, and, in no very long time, recovered a good share of health.

From that period she was, for a long time, not quite regular as to the catamenia, which appeared at uncertain periods, and less abundantly than before her dreadful accident.

Since the above-mentioned labor, Mrs. S. has been twice safely delivered of healthy children by my friend Dr. Bache. It is worthy of remark that the placenta was adherent in these cases also; and that Dr. B. was not able to effect the delivery of the after-birth until he had separated it from the womb by the introduction of the hand into its cavity.

I cannot refrain from mentioning here the case related by Mr. Charles White, of Manchester, in which he succeeded in restoring an inverted womb to its natural state by compressing it, and then pushing it up. In his case, I am not very sure that the inversion was complete, since, although he represents the inverted uterus to have been as large as a child's head, it was never expelled through the external organs, and it is improbable that, if fully inverted, it could be retained in the excavation. Mr. W. regards his method as of the very highest importance, and thinks he should never have succeeded but for the compression of the womb in the hands.

I am ready to admit that it might happen that a tonic contraction of an inverted uterus should come on at once, and last so long as to prevent the employment of the plan that I suggest; but I think it probable that it would always be practicable to return it in any case where it had not been inverted more than four or five hours, by waiting for the moment of its greatest relaxation, and then first indenting the fundus, and afterwards pushing it steadily upwards through the os uteri, and so into the abdomen again.

M. Colombat, at p. 185, advises that the whole mass should be pushed back within the vagina, which is bad advice, and which I hope you will not follow, but rather follow mine. In my Translation of Colombat, I made the following remarks on his advice at the 186th page:—

I cannot think that M. Colombat gives the best counsel as to the method of proceeding for this reduction. It is hardly necessary to say that the state of inversion does not deprive the womb of its muscularity, nor, consequently, of its ability to suffer what are called after-pains. It is also well known that frictions upon the sur-pubal region, and irritations applied to the mouth of the womb, or the internal surface of the organ, are constantly resorted to as means of exciting its muscular power. It cannot be, then, that by M. Colombat's method of grasping the neck of the tumor and shoving it upwards, we could fail to excite or irritate the organ into a violent exercise of its muscular force, which could not exist without hardening the tumor and rendering it stiff and inflexible. But, if we render it stiff, hard, and inflexible, how shall we expect to return it through its hard and rigidly contracted os uteri? It is manifest we cannot expect success by so unreasonable a method of operating. As the ancients used to say, *non cuivis contigit adire Corinthum*, so I may say it does not happen to every practitioner to have reduced a completely inverted womb; and the late Prof. Dewees says, at p. 512 of his *System of Midwifery*, 2d edit., that "we may justly entertain doubts" of the uterus having been reinstated after complete inversion. I have already spoken of the case which I saw with the late Prof. James and Dr. Geo. Fox, in which the womb was not only completely inverted, but had been strongly pulled by the midwife. Now in that case, I used the method recommended by Dewees and other authors, of grasping the globe firmly with the hands, in the view of pushing it back bodily into the pelvis—for it was of enormous size, reaching near half-way to the knees; but I was unable to meet with the least success until I had taken off the placenta, which still adhered, though detached in certain parts of the surface and much torn. And after I had removed the after-birth, I found that the organ became alternately soft and rigid, just as happens after delivery in an ordinary labor; and I further observed that to handle it was to irritate its contractility and to harden it, which rendered it obdurate against every attempt at reduction. I was compelled, therefore, to do what M. Colombat so pointedly condemns: *i. e.* to wait until it became relaxed, and then to indent the fundus and to drive that cone through the centre of the globe, and up through the cervix and os uteri, until I had carried my hand so high that the external organs contained my arm not more than four inches below the elbow. I feel very confident that if, *in any* case, I could succeed in indenting a fundus uteri, and in bringing the cone up to the os uteri, I could always perfect the operation by gently pressing that cone against the ostium uteri, which, under a persevering maintenance of the pressure, would yield as readily as it does to a labor

pain, or to the cone of the hand, when introduced in cases of hourglass contraction or spasm of the cervix under encysted or retained placenta. I dare recommend to the reader, therefore, to disregard Colombat's injunction, and to adopt the method which I found successful.

In any case of irreducible inversion, I suppose all that can be done is to have patience, and to hope for the best.

You should advise the woman to lead the quietest life she can afford to lead, avoiding all hard work and all fatiguing and protracted effort; advise her to live in hope, inasmuch as, though a doctor cannot cure the malady, nature can, and sometimes does; and that this is one of the greatest occasions for a woman to cry out in the language of Terence's Andrian,

"Juno Lucina, serva me obsecro."

You will be hard pressed to say what are the powers that can be employed to bring back to its natural form a womb long inverted.

In every such case, the organs or appendages that are connected with the womb must be drawn down into the vortex made by the total descent of the fundus, and its complete escape through the circle of the os uteri; that is to say, a good part of each broad ligament, of each ovary and Fallopian tube, and of each round ligament. Nor, indeed, can it be that a part of the bladder is not also pulled into the vortex.

When you reflect that the womb inverted nearly recovers, in process of time, its non-gravid size, and if so, becomes hard and elastic, not ductile, it is exceeding difficult to account for a spontaneous reposition. But the law of life, the generic law, is so powerful, that the inverted organ must exist under a constant *tendency*, at least, to recover its form. At all events, the history of our art is sufficiently replete with cases to prove the possibility of a spontaneous recovery. I have the less hesitation then in laying before you the following cases, which, I have no doubt, are examples of the spontaneous recovery of the inverted womb. I take them from Colombat, page 183, where I published them as a note in my translation of his valuable work.

I saw, a few years since, a female in this city who had been the subject of an inversion of the womb for about two years. This inversion took place at the time of her confinement, when she had a very profuse hemorrhage, so as to be supposed to be in danger of a fatal result. Her health gradually improved; but she remained subject to frequent attacks of hemorrhage, by which her strength became again much reduced. At length, a physician, who was called in, detected the existence of inversion of the womb, and invited me to examine the case and verify the diagnosis. I found the womb projecting into the vagina, and I believe it to have been, at the time, completely inverted. It was not much

larger than the non-gravid womb, bled readily from pressure at the time, and was not very sensible to touch, as indeed the healthy uterus is not.

In this case, I made the most careful attempt to discriminate between polypus and inversio uteri, and I remained under the absolute conviction, as did the physician, Dr. Mœhring, a highly capable practitioner, that the case was one not of polypus, but of inversion. I gave such a prognosis as I deemed reasonable, but added to it the opinion that she would never again be subject to conception. This female was subsequently examined with care by Professor Hodge, of the University of Pennsylvania, with the same diagnostic result; and later by Dr. Warrington, of this city, well known as a Teacher and practitioner of Obstetrics. These gentlemen all agreed that the case was one of inversion, and the attempts made by myself and by them to reposit the organ were without the least success. Nevertheless, about some four years posterior to the period of my visit to her, she became pregnant, and miscarried of an embryo of more than three months, under the care of Dr. Warrington, who received the embryo, and who feels as much surprised as I do at the circumstance. I may take the occasion to say that Dr. Hodge and Dr. Warrington have assured me of their convictions of the correctness of their diagnosis in the case, and I may add that I have not the least doubt of its correctness, for I do not think I or Dr. Mœhring could make so gross a mistake where our careful attention had been given to the formation of a correct opinion as between polypus and inversion. Far less can I suppose that the other gentlemen could be equally mistaken.

May 5, 1841.—I saw, in company with Dr. Levis, of the city, Mrs. S., aged twenty-seven years. She has two children, the youngest born five weeks ago. Dr. L. informed me that the child was expelled before he reached her dwelling. Upon arriving there, he found her lying upon her back, near the edge of the bed, the feet resting upon chairs, as if she had hardly found time to get upon the bed before the escape of the fœtus, which an attendant was then holding up in her hands, in order to keep it out of the great pool of blood collected about the hips of the patient. The child's head, indeed, was quite born before the lady could rise from the pot-de-chambre, on which she had placed herself. Dr. L. removed the placenta from the vagina, having found the womb contracted.

After the delivery, she flooded a good deal, but, in a fortnight, was much recovered. Subsequently to this period, she was again seized with flooding of a severe character, since which she has not been free from bloody discharges, which are occasionally quite copious. Two

days ago, the doctor examined his patient, and found a tumor projecting from the os uteri, which he suspected to depend upon inversion of the organ. She is now very feeble, is bleeding, and has frequent fits of hysterical delirium.

Upon Touching per vaginam, and upon inquiry made by means of the speculum, and even by disparting the labia with two fingers of each hand, it was easy to discover a tumor which bore so great a resemblance to a uterine polypus, that it was difficult, viewing its size, form, color, and resistance, to believe that it was not a polypus which had existed throughout the gestation; an idea which yet could not be very reasonably indulged, seeing she had gone through a healthful pregnancy to full term; though I admit its possibility in certain cases. As the parts, as well as her whole frame, were very much relaxed, I introduced half of my right hand into the vagina, behind the tumor, so as to enable me to carry two fingers quite far up into the cul-de-sac, behind the cervix uteri, which was not inverted. Having thus possession of the canal, I carried the two fingers forcibly upwards and forwards, so near to the margin of the superior strait just behind the symphysis pubis, that the fingers of my left hand, pressed forcibly upon the lower part of the hypogastrium, were but a very small distance from those of the right hand within the vagina. The ends of my fingers approached so near to each other, that I remained perfectly convinced that no womb was interposed betwixt them, and that the tumor within the vagina, resting in my palm, consisted of the inverted womb, and nothing else. She remained for some time feeble, and subject to hemorrhage, which gradually disappeared. She made a journey to one of the Western States, and returned to the city: since which she became pregnant, and gave birth to a child.

In my Treatise on Obstetrics, the Science and the Art, I have given the letter of Dr. Hatch, of Connecticut, relating an undeniable case of inversion spontaneously cured. It seems to me that Dr. Hatch's case is one so clearly made out that it settles the question as to the possibility of a spontaneous reposition, and confirms my own cases as above stated. I refer you, then, to my work, at page 552, and beg you to read the passage before you make up your opinion.

Now, as to my two cases, I am very confident of my diagnosis; and as both these women have since been the subjects of conception and pregnancy, without artificial reposition of the organ, I rest convinced that the inverted womb, where the accident does not prove suddenly mortal by hemorrhage, nor slowly fatal from exhaustion by inflammation and gangrene, or discharges, may reposit itself in some rare instances. I made a statement of these cases to Dr. J. Greene Crosse, of Nor-

wich, England, to whom the profession is indebted for a second part of his work upon inversion of the womb. Mr. Crosse, in his publication, does me the honor to notice this opinion as to the spontaneous reducibility of the inverted womb, which he regards as highly improbable.

I think these cases are well calculated to encourage and strengthen your hands in the administration of your art for those persons who, having suffered inversio uteri, cannot be relieved by the chirurgical reposition of the womb. They hold out considerable encouragement for cases otherwise hopeless perhaps. As to the losses of blood that ensue immediately after the accident of inversion, you will have little to fear, provided your patient escapes the *foudroyant* hemorrhage, and is allowed to live long enough to get her womb once well reduced to near the non-gravid dimensions. By rest, by styptics, by position, &c., you will be enabled to bring her into a state of comparative security and comfort; and if you keep the inverted womb quite high up within the pelvis, she will always have the hope, at least, of one of those spontaneous recoveries. Surely, you would not indulge the hope of such a recovery, should you allow the inverted globe to pass forth and remain outside of the genital fissure.

If, in such a case, you should be unable to make the woman bear a pessary, you could, at least, invent a pad and T bandage, which, compressing the labia together, would effectually obviate the procidentia of the ruined womb.

I confess, my young friends, that I am deeply interested in the question as to whether an inverted uterus can be reposited by an intrinsic force of the body. I was, upon first publishing the above cases of spontaneous recovery, much concerned lest the brethren who should read the account of them might accuse me of credulousness in supposing such a thing possible; and I find, indeed, that Mr. Crosse thinks my diagnostic at least very doubtful. But the records of the science are not without strong proofs of the possibility of such spontaneous recovery.

Daillez, who published certain lectures of his master, the great Baudelocque, gives accounts of two such cases seen by that illustrious physician. I am not able to quote from Daillez himself, whose essay was published in the *Thèses des Paris*, which I have not been able to procure. It is cited by Mr. Crosse; and also by Messrs. Paul Dubois and Desormeaux, in their article in the 30th vol. of the *Dict. de Médecine*, p. 358. These are their words:—

"The womb, after having been long inverted, has been found spontaneously to recover its natural state, in consequence of some violent accidental shock suffered by the woman. It seems that the spontaneous

reduction of the uterus took place after two months' duration of the accident in one of the cases reported by Leroux, as appears from a letter to Louis, mentioned in Daillez's Dissertations, before mentioned. The same dissertation also contains two cases, one by a surgeon named Barre, and the other by Baudelocque. In the first, the reduction occurred at eight months; and in the second, after the lapse of eight years. In cases of inversion caused by uterine polypus, there is no special indication of treatment, since the womb recovers its proper form as soon as it is freed from the weight that has dragged it down." Such is the statement by Dubois and Desormeaux.

I now add a case of inversion of the womb, related by Dr. Thomas F. Betton, of Germantown. I desire you carefully to read it in order that you may more fully appreciate the danger to which a woman is exposed by such an accident. You will see that Dr. Betton took, upon his arrival, all the possible precautions against the danger; but the loss of eighty ounces of blood had so exhausted the vessels of the unfortunate woman, that it was impossible, even by Dr. B.'s judicious, prompt, and scientific course, to rescue her from the consequences of the accident. The case was originally published in the *Am. Journ. of the Med. Sci.* for 1836, vol. xix.

Dr. Betton says: "On the evening of the 4th of August, 1836, I was called to see the wife of S. B——, living at the Rising Sun Village, about three miles distant. On reaching the house, I found a woman of about eighteen years of age *in extremis*. The midwife gave me the following history: The patient had had an easy delivery: the midwife placed her hand upon the abdomen, to feel if the uterus were contracted, but could not perceive it. A violent pain followed immediately, and the placenta, with something adhering to it she did not understand, was forcibly expelled. This, I found on examination, to be the uterus, completely inverted and prolapsed, lying like a gum elastic bottle between the thighs. I immediately separated the placenta, and endeavored to restore the uterus, which endeavor was successful in two or three minutes. The woman was pulseless, from loss of blood; the carotids could not be felt, and the action of the heart was extremely feeble; jactitation extreme; mind wandering. About twenty ounces of blood had coagulated around the uterus, and between it and the placenta, which was partially separated. From the distance at which she lived, I did not see her for at least one hour after the occurrence of the accident, and she had lost full eighty ounces of blood before my arrival. She did not lose more than two or three ounces after the reduction of the uterus, but in her exhausted state, that was too much. I gave her immediately a large dose of the vin. sec. corn., but it failed

in producing any effect. Brandy, and wine and water were freely administered, but in three-quarters of an hour after my first seeing her, she expired.

"My own conviction always has been, although the midwife denied it at the time, that she had produced the inversion and prolapsus by pulling too strongly at the cord."

Finally, I refer you to my work on midwifery, page 546, for further elucidations of this subject; and in which I think you will find reason to agree with me that the womb can, in some cases, spontaneously recover of inversion.

As to the operations for the removal of the incurable and insupportable invertio uteri, I refer you to Mr. Crosse, and to Colombat.

I am very truly your obedient servant, C. D. M.

LETTER XIX.

INFLAMMATION OF THE NON-GRAVID WOMB.

Gentlemen: In the first edition of these letters, I did not say so much as I might have said on the special subject of inflammation, and other disorders affecting the non-gravid womb. I propose now to speak to you more directly on that topic, and particularly on the disorders of the cervical portion of the organ.

Let me beg you, before we proceed a step further, to reflect upon the nature, I mean the physical or substantive nature, of the child-bearing organ, in order that you may clearly discern the differences of the elements that enter into its structure. If you get a clear idea of this matter, it seems to me you will have little difficulty in estimating, in diagnosis or in practice, the exact nature of such disorders of the organ as you may hereafter be called upon to treat.

And first, the womb has a serous coat: is the serous coat involved in the case, as a principal or accessory in the disease? Secondly, there is a mass of areolar tissue: is it this that has given way to some pathogenic cause, and by its derangement involved the rest of the tissue, which it incloses and interlaces throughout its entire substance? Is the disease seated primarily in the nervous element, converting, or tending to convert the whole organ into a cephalomatous tumor? Or is it the absorbing apparatus, tending to a hygromatous degeneration? The vascular material may be the faulty element that threatens to involve

the whole womb in a disorder whose essential nature is nevertheless a real Hæmatoma. Is it the mucous, the tubular, or the follicular structure? In what part of the organ is the disorder established? Is it on the vaginal cervix, the corpus, or the fundus? or is the whole of the womb deranged? Such are the questions proposed—these are the problems you are to solve; and to me it seems that by analyzing, in this manner, the tissues, whose altered appearances or nature attract your regard, you will at least have a surer footing for your prognostic, your therapeutic, or your surgery, than you would have if you should fail to define, if I may say so, the position of affairs in the case before you.

Then, too, you ought to give serious consideration to the question, as to what is the life of the womb? How is that life supplied and maintained? What are the things or the circumstances that may modify it? You ought never, in such a contemplation, to pretermit the idea that the nervous mass of a part is its essential LIVING PART, and that whatever is not absolutely nerve in it, is at least evolved out of nervous matter, or nervous mass. But the nervous mass of the womb, like that of the other pelvic viscera, is derived from the great sympathetic through the superior uterine plexus, situated just below the bifurcation of the aorta, and from the last splanchnic nerves that run down on each side of the pelvis to give their fibres to the rectum, vagina, uterus, bladder, &c., after having received inosculations from the sacral pairs. You should reflect on the difficulty of making a diagnosis from any mere relation the woman may make of her pain, her bearing down, her weakness, her discharges, &c., since the community of pelvic innervations makes it almost sure that sensations experienced by her cannot be so definite and so localized as to enable her to state the real seat or the real nature of her complaints, and since she cannot possibly inform you about matters of which she is wholly ignorant.

You will have learned from the anatomy of the uterine nerves that, if a woman complain to you of a bearing down, a dragging, an aching in the hypogaster, the groins, or the loins, or the buttock, or thighs, these sensations may depend on affections of the womb, of the bladder, the vagina, the rectum, or the sphincter or the levators, or other muscles in the pelvis. The affection of the womb may be descent, inversion, anteversion, retroversion or retroflexion—engorgement, rheumatism, neuralgia or induration, or ulceration of the os tincæ, or vaginal cervix. You ought not, therefore, to hasten to form an opinion, but should cautiously proceed to discover the grounds of a diagnostic, and so make one to stand by, when you shall have once made it.

The complaints made to you by patients, having what are called female diseases, will be stated as pain, weakness, dragging sensation,

bearing down, burning, pruritus, dysury, discharges of different kinds, rectal tenesmus, &c.; and it will for the most part happen, that all these shall be included by different people under the general head of womb complaints; by which is most generally understood, among the populace, a falling of the womb.

In some instances, you might perhaps feel safe to make up a quasi diagnosis on grounds of probability, relying on the relation made by the woman herself or her friends; yet such instances are rare, and extremely liable to lead to error. To press the examination of the case to the point of a vaginal taxis in all instances would be grossly wrong. Yet, whenever the probability of a correct diagnostic without it is not very strong, I think it is proper that you should require, as a condition of assuming the responsibility, a full investigation of the physical signs of the malady. There is, in disorders of the chest, no diagnosis so much to be relied upon as a physical diagnosis. But in those of the reproductive organs, a physical diagnosis is vastly more important, as means of arriving at correct knowledge, for the complications are much more considerable, and the rational signs much more indistinct or confused, than those of the respiratory disorders.

Women who appeal to you for counsel as to mere prolapsion of the womb, are, for the most part, completely relieved of the symptoms, and in the process of time wholly cured of the complaint by the use of a pessary. Yet a very general distrust exists as to the usefulness, or even harmlessness, of that instrument. There are not a few medical men who condemn it utterly. But that proves only their ignorance of its indications and employment.

I have always maintained the opinion that the pessary is an indispensable agent in the cure of prolapsus, and have not been surprised at the distrust of it expressed by various persons, since I have had such frequent occasions to know that it is often ill chosen, ill timed, or applied to cases ill understood and wholly unsuitable to such treatment. It has appeared to me that a woman laboring under a simple prolapsus is always immediately relieved by its use; whereas, she who has not merely a prolapsion, but an irritable or engorged, inflamed or ulcerated cervix and os uteri, or a retroversion of the organ, cannot but be injured by a resisting body of gold, of glass, of wood or cork placed in firm contact with such diseased surfaces, especially in the unsuspected deviation. Hence, whenever a woman complains of pain, or uneasy sensation caused by the pessary, we have a *prima facie* evidence that it is ill applied or ill timed, and we ought to ascertain the precise causes of the distress and failure.

Sometimes we may feel a great confidence in a diagnosis made by

the vaginal taxis, yet it is true that the sense of touch is not capable of revealing to us certain abrasions of the epithelium, certain stellated or punctated vascular injections of the mucous lining of the vaginal cervix and the inner aspect of the os tincæ, that are clearly disclosed by the speculum uteri, and that must be cured in order that the woman may be cured. Nor can the touch reveal certain follicular disorders that frequently exist there. Now I can confidently affirm that many of the cases of so-called prolapsus are complicated with such pathological conditions as I have above mentioned; and I advise you, in all instances wherein you have good reasons to distrust the results of an examination by the Touch, to ask for permission to learn the truth of the case in the only possible way—I mean by the use of the speculum. On the 12th of February (to-day), I examined by Touching, a woman who came here to see me from the country. I noted the form, place, and resistance and sensibility of the vaginal cervix, and perceived a softish substance about the os tincæ. I could not know what it was; but upon looking at it with the metroscope, I saw that it was a very soft cellular polypus, some three quarters of an inch long, passing by a slender pellicle or stalk upwards within the os uteri. I twisted it off with the speculum forceps, and may presume I have thus cured her of a vexatious stillicidium sanguinis of three years' standing.

The plan of this work does not admit of the fulfilment of a desire that I feel to present to you here various graphic delineations of the appearances seen at the bottom of the speculum, in examples of so-called falling of the womb. In my treatise on *Acute and Chronic Diseases of the Cervix Uteri*, I have presented such illustrations, and must refer you to that work.

I have there shown a vesicular eruption covering the lower apex of the womb; fissures or deep rhagades; ulcers, some more, some less deep; very considerable tumefaction, to that degree, indeed, as to render it difficult to catch the cervix in the orifice of a large Joubert-speculum; intense redness of the whole mucous surface; redness confined to the inner aspect of the whole, or a part of the anterior or posterior lip of the os tincæ; fungoid excrescence like proud flesh; small cellular polyps, red as a ripe currant, and larger or smaller, springing from the surface on the reverse, or on the inner aspect of the lip of the os.

Seeing such things as the above in any case, you would be at once convinced that the malady, the prolapse, is a complicated one, and that your business is, first, with the complication, after curing which, you would have little trouble in alleviating, and even permanently curing, the mere prolapsion.

If, as I stated in a former part of this letter, the life of the womb is essentially its nerve-life, how natural is the conclusion that ulceration, inflammation, neuralgia, chronic engorgement, or hypertrophy of the cervix should be found to disturb the innervations of other parts contained within the pelvis! Is it not reasonable to suppose that the congenerous branches of that system of nerves that are spread like a spider's web upon the rectum, the ovaria, the womb, and bladder, should determine a uterine tenesmus, if I may so call it, that shall cause the sensation that the woman calls BEARING DOWN? What else can be meant by bearing down?

Let a point of fluxion, nervous or sanguine, be established within the pelvis; the inevitable consequence is a Tenesmus, perceived or not perceived by the patient herself, and which, whether she perceive it or no, tends to depress the level of all the contents of the pelvis. The presence of certain feces in the rectum, the stimulating influence of drastics, the existence of hemorrhoidal tumors, rectum pouches, ascarides, or dysenteric inflammation of the rectum; stone in the bladder, strictures of the urethra, cystitis, vaginal rectocele, or vesicocele, or sphincterismus, equally with inflammation, &c. of the vaginal cervix, all tend invariably to depress the perineum, under the constant exaggerated antagonism of the diaphragm and abdominal muscles, provoked to this augmented intensity of force by what is called sympathy, but which is, in the true intent and meaning of the word, Tenesmus.

Dr. Bennet, whose work I have noticed in Letter XII. p. 149, attributes prolapsus uteri to the increased weight of the swollen cervix uteri. I have expressed my dissent as to that hypothesis. Is it not more consistent with physiological truth to attribute this bearing down (in which there is a real descent) to the provocations of a *tenesmus uterinus*, caused by the perception of disorder, distress, or inconvenience, felt by portions of the nervous mass, because that portion of it which is said to innervate the pelvic organs is disturbed or ill? The entire system of splanchnic innervations is united, as it were, into one apparatus of common organic perceptions by the numerous plexuses and inosculations of nerves of the two great cavities, and particularly of the abdominal cavity. Hence, we may readily suppose that, when the branches that go to the womb are disordered, or irregular in any respects of health, the plexual centres will perceive it, and parts equally dependent upon those plexuses will feel disorder, affecting the plexus so that the disturbing influence is *reflected* upon them. Thus, unless I am greatly mistaken, I have seen about seventy persons suffering under the extremest abdominal pain—pain, I mean, as severe, and felt over a space as extensive, as that noticed in persons under intense peritonitis.—In

every one of those people, I could cause the pain to cease immediately by lifting the womb an inch or an inch and a half upwards in the pelvis on the finger used in the act of *Touching*. Here, then, I had irrefragable evidence that the general abdominal neuropathy depended upon a depression of the level of the womb in the excavation, for it ceased with the elevation, and returned with the fall of the organ, upon withdrawing the support. I see not how you can deny the conclusion, then, that irritation of the uterine nerves, by prolapsus of that organ—or that other irritations, unattended with prolapsus—may trouble the splanchnic system of nerves.

The foregoing remarks may suffice to put you on your guard against adopting, without proper inquiry, the opinions of the patient as to her complaints, when you are called upon in supposed instances of prolapsus; and you should not fail to make out your diagnosis at least by means of the touch; or perhaps by the metroscope. I saw this day, 25th Nov. 1849, a lady aged about twenty-eight, who has been lying twenty-eight days in bed, suffering under pains, hemorrhage, and dysury, which the person who had charge of the case called a case of engorgement of the womb.

Among other remedies, he directed her to fill the vagina with a pocket-handkerchief, which she did for a whole week. When I came to her, I asked leave to examine the parts. The womb was retroverted, and much increased in size and weight, and excessively sensible to pressure. Now here was a person maltreated for twenty-eight days, and allowed to endure the most distressing pain and loss of blood, besides having her retroversion aggravated by the tampon, because no examination was made. You see in this representation how wrong would be your conduct should you allow a fine creature like this to suffer so dreadfully from a neglect of your imperative duty towards her. What answer would you make to a lady who should charge you with having caused or allowed her to have such an illness. "As a sheep before his shearers is dumb," so would you not open your mouth.

I am the more desirous that you should be in the right upon this topic—uterine diagnosis—because I find so many occasions to blame my medical brethren for sending their patients hundreds of miles from home, to be treated by some metropolitan doctor, who has, to use a common mode of speech, got his name up as a very skilful man in women's diseases. Every one of you ought to esteem himself equal to all the duties incumbent on the medical practitioner. Why indeed can it be necessary to avow your own incompetency, and transfer your patient to the care of wiser people? It can only be because you are careless, or because you are stupid. You are careless, in that you will not make

the investigation; or you are stupid, in that you will not reflect upon, not perceive what are the relations of the womb to the pelvis and its contents, and to the whole economy; nor understand the absolute physical structure and elements of the childbearing organ. If you would but think, in these cases, that the womb is two and a half inches long, weighs two ounces, is divided into fundus, body, and neck; that it consists of certain elementary tissues, whose quantitative combination makes it what it is, and will maintain it so as long as the relations of these elements continue to be normal in quantity and force, it seems to me you would soon come to the other reflection, that you can cure it as easily as I or any other person; and that you would set about the task thoughtfully and methodically, and not by means of a series of mere conjectural trials and spasmodic efforts to cure something, somehow, you know not what, nor how. With these preliminary remarks, which I offer to you as suggestive of the importance as well as plainness of your office, I now feel at liberty to proceed to the consideration of more detailed notices of the womb.

I do not know that anything is to be said as to special affections of the fundus uteri, distinct from those of the body and cervix. Such affections may probably exist, but we have no dependable means of diagnosis applicable to them.

The fundus and corpus may and do become the seats of disorders that produce but little change in the form or sensibility of the cervix. You may readily suppose that, as the non-gravid womb can, under the forces of gravidity, become, in a short time, so changed as to increase in weight from two ounces to a pound and a half; so, the same texture may, under the operations of various pathogenic causes, augment in volume and weight, in a degree the most striking, yet preserve throughout the progress of such hypertrophization the just quantitative ratio of the several elements of it.

You will, in fact, meet with examples of disorder in which you shall find the uterus to have become four or five inches in length, and of a proportional thickness; and that too, without the texture having become in the least degree heterologue. I suppose the texture, in these instances, has acquired the characters of the gravid womb, yet without gravidity, and so, giving rise to what may be denominated hypertrophy of the organ; and, in these instances, you shall not always find the form and magnitude of the vaginal cervix much altered in your examinations per vaginam, and hence be lost in a sea of doubts as to the existence or non-existence of gestation in the case. Reflect on the magnitude, form, and weight, and constitution of the womb, in a woman delivered of a child only four or five days ago. Then remark, that the non-gravid

womb, or even virgin uterus, might possibly be so changed as to resemble it in many points.

While the substance of the womb may thus be greatly augmented in size by processes similar to those that serve to augment its substance in gravidity, you should observe that it may also, in some cases, become greatly augmented by heterologue nutrition, which may serve to convert the whole, or a part of it into a tumor. The hypertrophy may be cured by therapeutical and hygienical measures; the heterologue mass can never be cured—unless, indeed, by the extirpation of the organ—a thing scarcely to be thought of, since all such operations are too dangerous to be commonly attempted.

I hope you will readily make the discrimination between simple engorgement, swelling, or hypertrophy of the womb, and those other changes that depend on the cessation within the organ of the generic development force of it, and which permits one or another element of its structure to take the lead, and outgrow, and finally overwhelm the other elements under an exuberant and non-generic augmentation. If you can make such discrimination, you will persist in all reasonable efforts to cure the one, and you will not destroy the patient by vainly drugging her, in the foolish expectation of curing a tumor. A tumor is not subject to therapeutics, "neither indeed can be," but only to surgery. A swelling is a therapeutical, a tumor, a chirurgical disorder.

If, then, you come to the conclusion, in any case, that the enlargement of the womb is hypertrophic merely, you should take all proper measures to reduce it to its generical or natural dimensions. How will you proceed? 1. Do not suffer the mensual hyperæmia to rise to an immoderate height, since the maladive tendencies of the womb will take advantage of the temporary exacerbation of the organic life within it, to increase and render permanent the turgescence of the part. The woman should be let blood, in moderate quantity, with the lancet, or by cups or leeches, at the commencement of the menstrual period, or at some early period of the flowing. The bowels should be kept in a soluble state; or a smart operation of saline cathartics might be deemed desirable. She should avoid exercise, observe an abstemious regimen, and keep the bed from the beginning to the end of each menstruation. The non-gravid uterus is about two and a half inches in length, and weighs some two ounces and a half. In pregnancy it augments in size and weight, so as to attain to a length of twelve inches and a weight of two and a half pounds. This act of evolution is an act of physiological hypertrophization. It grows by evolution, and then by involution returns to the non-gravid condition. Suppose the involution to have proceeded so far as to have concluded one-half of its office, and that then some

disease or accident should arrest the process of reduction, for example a retroversion might take place and determine the arrest of the act. If, after a few months, the case should be submitted for your consideration, and you should decide that it is a case of retroverted hypertrophied womb, what would be your duty? Clearly, it would be to reposit the uterus, and support it in its natural position. On doing this, is it not to be supposed that the processes of its involution would recommence, and the organ be thus rapidly restored to its non-gravid form, volume, and weight? Let such a principle as this guide you, then, in all analogous cases of enlarged uterus.

After a venesection, and the operation of a purge, she might be kept under the influence of fortieth of a grain doses of tartar emetic, repeated every hour or two, unless deterred by the occurrence of nausea. After the menstrua, small doses of iodine may wisely be ordered, until the approach of the next catamenial term brings with it the renewed indication above mentioned. The patient should live *absque maritô*.

I do not well perceive how a more prudent course than that above pointed out could be taken, nor do I find myself, at present, able to propose any other. There is reason to believe that, by such methods, I have been able to check the progress of dangerous diseases of the kind in question.

The diseases of the cervix and os uteri are more readily and clearly discoverable than those of the fundus and corpus uteri, because we cannot only judge of them by the Touch, with one or two fingers, but we can judge of their varieties by the eye, which sees them plainly at the bottom of the metroscope or speculum uteri. The two senses of sight and touch, when their combined results come to be presented to our judgment, are little likely to deceive or mislead us; and so we may, as I above remarked, possess ourselves of highly certain information in such disorders; and we ought to have the privilege to make such researches for the benefit of the patient, even if we set aside the honor of the science, which is more promoted by accuracy of knowledge and success in treatment than by any other measure. If we are not permitted to make up a clear opinion, we may always enjoy the privilege of declining to take charge of the treatment.

A woman shall come to you to complain of pains in the pelvis, dragging, heat, burning, pruritus, leucorrhœa, frequent returns of slight show, anticipation of the catamenial return, excessive menstrual discharges, pain in coitû, &c. &c. What can be the cause of all this distress? Is it rheumatism of the womb? is it ulceration of the lip of the os tincæ? is it mere hyperæmia of the vaginal cervix and os, manifested in swelling and great redness of the parts seen in the metroscope?

is it follicular disease of the lips of the os, or of the canal of the cervix? is it syphilitic ulceration? These are questions you must answer before you enter upon the cure.

If it be rheumatism, it will coincide with symptoms of a rheumatic kind elsewhere. Perhaps it will be found to be a lingering remainder of articular or muscular rheumatism, that has long tormented the patient, or it coincides with neuralgia of the head or neck, or it is chiefly distressing in cold damp weather, or in seasons when the weather is most variable. Certainly, there is reason to believe that the parts contained within the female pelvis are prone to be attacked with rheumatism, and such attacks are incited or provoked by the incautious use of cold water, by damp cold feet, by improvidence in regard to dress, shoes, &c. &c.

If a woman complain to you of great pain in the pelvis, supposed by her to be uterine pain, and you cannot make out the existence of any deviation of place or direction in the organ, if the surgical cervix be not indurated, nor the os uteri inflamed or ulcerated, I think you will have a motive to regard the case as one of the samples of rheumatism of the womb; and in that decision you will be confirmed, if you discover neither rectum pouches nor hemorrhoidal tumors, but much sphincterismus and painfulness in the action of the levatores and sphincter ani muscles.

Such a rheumatic state of the womb is not necessarily attended with a febrile train; yet, when it is violent, you may well expect to find a disturbed pulse, and all the constitutional accompaniments of such disturbance.

Rheumatic affections of the uterus are very often allied to painful states of the muscular and fibrous parts within the pelvis, and by symptomatic aching of the thighs, resembling cases of sciatica. In these instances, it is not rare to meet with persons who suffer the greatest distress from sphincterismus, or spasm, or cramp of the sphincter muscles, both of the rectum and vagina, as I have above said. This cramp, I have had reason to suppose, in certain of my patients, has also extended to the levator muscles. The habitual state of condensation of these various muscular fibres comes, after the lapse of several months, to take away, in a good measure, their power of relaxation, and thus compels the sufferer to make violent efforts of defecation whenever the bowels are to be moved. It may well be supposed that, when the feces become dry and hard in those who are costive, each alvine operation is attended and followed by insufferable distress; I have found many persons compelled to lie down for several hours after

each evacuation; the pain, occasioned by the resistance of the distempered muscles, being too great to allow of their sitting up.

Such a state of the sphincter may be known to exist by any attempt to pass the index finger within the rectum. In such an attempt, it will be found not only highly painful to the patient, but very difficult to make the finger overcome the spasm of the muscle, which, after the introduction, will be found to compress the finger with great force. This state of things is often miscalled piles, fissure, rectum pouches, or womb disease, the sufferer being treated accordingly, and in vain.

I hope that when you are called to see such patients, you will be sure to examine carefully as to the possible and probable causes of the pain; and if you should come to the conclusion that the case is one of sphincterismus, that you will adopt a sensible method of cure.

You know, I suppose, that the surgeon may, by a cautious and dexterous method of operating, be able to introduce the whole hand within the rectum of an adult, and if so, then you know that the sphincter ani muscle will admit of having its circle of fibres greatly enlarged. In ordinary defecation with moulded stools, the circle of fibres is for some persons greatly expanded. But in instances of violent and chronic sphincterismus, the circle, as I before said, cannot be expanded so as to equal the diameter of the index finger, or even of a catheter without pain and difficulty; and that because, through long use and custom and disease, the muscle has lost great part of its relaxability. Read what Mr. Hunter says on a *power of relaxation.*

What will you do in such a case? Will you take a tenotomy knife, and with it divide the sphincter? This would cure the constriction for a moment, or for a few hours, perhaps, but it would return with the healing of the wound.

For my part, I believe I have always succeeded in curing my patients, thus affected, by the use of the conical gilt bougie that I have described in this volume; and I advise you to allow your patient to begin, with a bougie of the lowest size, to dilate the ruined muscle. Let the dilatations be repeated daily, proceeding by gentle degrees in the use of the bougies, from small to great, until, at last, the largest one of the series can be passed through the sphincter with facility and without pain. This will certainly be the case in a few days or in a few weeks, and at the end of the treatment, the muscular fibres of the sphincter will have been restored to their normal dimensions, or, in other words, the sphincter, recovering its relaxability, will have laid aside its habitual state of cramp or spasm.

You ought to know that this sphincterismus, of which I am speaking, is a very common disease among women, as well as in men, and even in

little children, among whom I have seen it when the children have not been more than three or four years old. In such little patients, every attempt to evacuate the rectum is attended with cries; and so great is the reluctance of the sufferer to encounter the oft-repeated pain, that he refuses to go on the pierced chair in order to the stool. I have met with it in young virgins, in married women of twenty-five or thirty years of age, and in persons of sixty and upwards. I assure you the disorder is intolerably painful, and that it may continue for years to agonize the patient with every diurnal evacuation, and afflict her, in the intervals, with a sense of soreness and pain that at length undermines her whole health.

It is very certain that a muscle that is not extended by means of a power extrinsic, will exert its intrinsic force of contraction, and continue to do so until it shall at length wholly lose its extensibility, and this is the case in the malady under consideration. In this chronic sphincterismus, the extensibility of the sphinctorian fibres is lost, and the indication of cure is to restore that lost extensibility to the ruined muscle. The natural powers cannot do it. The muscle has assumed a condition analogous to that acquired by the sterno-cleido-mastoid in wry-neck, or that of certain muscles of the leg in varus or valgus. Those faulty muscles may be cured by stretching them with instruments and bandages, and the sphincterismus may in like manner be cured by stretching the sphincter-fibres or expanding the ring by means of the gilt bougie. The sphincter ani ought, in health, to be capable of becoming a ring or circle an inch and a half in diameter, or four and a half in circumference, without causing the individual to feel much pain. In sphincterismus, it is very painful to dilate it so much as to equal a circumference of one quarter inch.

Suppose, in such a case, you could by your art succeed in dilating the ring to a circumference of four and a half inches! do you not perceive that you would thereby cure the sphincterismus? The muscle would, in that event, have been restored to its pristine diameter, and a little attention to the duty of putting it fully in extension once a day, once a week, or once a month, would confirm the cure.

To treat such a case, your duty will be first to clear up the diagnosis of it—to make sure that the patient, if a female, is *not* laboring under some supposed disease of the womb, and to explain the principles of the disease and of its cure. You should provide yourself with a few gilt bougies, each about four inches long, the smaller sliding into the larger, the smallest being about half an inch and the largest fully one inch and a half in diameter, with two intermediate sizes, sliding, and easily fitting into the sizes next above them.

Let the patient be placed upon her side, covered with a sheet, near the foot of the bed—the knees being drawn up. The smallest bougie being used first, should be dipped in oil and passed as far upwards within the grasp of the sphincter as it may go without giving too much pain. It should be left *in-situ* about two or three minutes—and the operation should be repeated once a day, using always only a very gentle force, lest the too rapid overcoming of the contraction should, by contusing or overstraining the muscle, cause it to inflame, and thus compel you to desist from prosecuting the cure.

I find that some of my surgical friends are disposed to think, in dilating strictures, that the distending catheter or bougie ought to be left a long time within the stricture. I have not found it so. On the contrary, in dilating the most perverse stricture of the urethra, I never leave the bougie IN SITU more than one or two minutes—finding that what I have gained to-day is preserved for to-morrow—and that I can readily pass, at the next operation, a larger bougie than that used in the antecedent one.

I am very well satisfied to have had this opportunity of laying before you my views on the cases of sphincterismus, both as to the signs, nature, and treatment of that disorder; a disorder that is very commonly overlooked, even by most experienced physicians, and almost sure to be misunderstood by the early practitioner. I shall now proceed to say something on the more special subject of the disorders of the surgical cervix, or that part of the neck of the womb that projects downwards into the tube of the vagina. It is called the surgical cervix, or the vaginal cervix, in order to distinguish it from that part of the cervix that is above or beyond the reflection of the vaginal mucous membrane.

A medical practitioner much conversant with the nature and signs of disorders of the reproductive organs is a person who has acquired a most familiar knowledge of the form, size, and resistance of that portion of the womb that can be reached by the Touch. In fact, such a person is one who has formed an intellectual IDEAL of the organ or parts to be examined; and that ideal which exists ever at hand and perfect in his understanding, serves as an absolute, perfect standard, or scale by which he is enabled to judge and measure every real specimen that is submitted to his opinion on the case.

A man ignorant of the structure or functions of such parts, might in vain explore them with a view to determine their condition as relative to health or disease. Wherefore, I advise you to form for yourselves perfect Ideal Models or standards by which to judge and with which you are to compare every deviation of form, volume, resistance, tint, sensibility, and function; for it is only by so doing, that you can rely upon

your professional ability to say of this or that—it is wrong, or it is right, and that the deviation is thus or so, and not otherwise. One who has thus accomplished himself knows all about the matter. He knows, upon making such Taxis, that the os uteri is too large, or that it is too small—that the lips of the os are too thick or too thin—that the membranous surface is too rough—that it has a succulent or soft granulated feel, that it is sensitive beyond measure, that it bleeds from a Touch, &c., &c., which leads to the inference that it is turgid with excessive circulation, or even affected with a soft surface of ulceration. The same adept physician will, by a graduated pressure with the point of the index finger, determine the degree of sensibility of the surgical cervix.

"Does that hurt you?" and he presses the os—and the anterior, the posterior, and both the lateral aspects of the neck of the womb. If she cries out with a sudden pang thus produced, he knows that such pain is one of the unmistakable signs of an inflammation established there—for he knows that, of the four things, *tumor*, *color*, *rubor*, *dolor*, the latter, or pain, is one of the most pathognomonic.

The same act of Touching informs him of the position of the womb; for he knows that, if the os tincæ is too near to the symphysis, there is a deviation, or dislocation of the organ, and how much. Lastly, the moisture or dryness, the heat or coolness of the internal textures, as well as stains upon the napkin used to cleanse the hand, reveals important items in the diagnostic he seeks to establish.

I am convinced that a very experienced or erudite Touch—a *Tactus eruditus*—can often report to the practitioner's intelligence all that he shall require to know of the case. Yet, when that same Touch leaves him in doubt, let him settle the question by referring to the report of a metroscopic investigation. That alone can yield a clear information as to the hue or tint of the affected parts, and aid him to fix with precision the therapeutical or chirurgical indications.

I advise you not to make use of an artificial light in your metroscopic operations. It is to the last degree humiliating to the patient to be examined with a candle; and I never see a Doctor so engaged without thinking of the woman in the Testament who had lost a penny, which she searched the whole house for, having first lighted a candle; and I feel a propensity to ask: "Do you see the penny?"

Try to find a clear light from the sky, and a north light is the best. The bed should be three or four yards distant from the window that admits your light. The patient is on her back, with her head, not her shoulders, on a pillow, and a thickly folded sheet under her sacrum, to prevent her from sinking too low in the bed. This sheet should be very near the bed's edge, leaving space on which conveniently to rest her

feet, the knees being completely flexed. Before she lies down let a sheet be thrown over her, the margin resting on the floor so as to cover her whole person.

Sitting in front of the patient, adjust the Recamier speculum beyond the grasp of the sphincter, and then, withdrawing the guide, wrap the lower edge of the sheet around the outer portion of the speculum, carefully covering her person and even her slippers, so as to leave no part of her body exposed. This I conceive is the least flagrant performance of a flagrant act—an act inexcusable save under the duresse of a conviction that it is needful for the safety of the sick woman.

Having thus protected the patient from view, you can, by rotating the tube on its axis, and by movements of circumduction of the upper or bevelled extremity, at length catch the cervix in the aperture and bring it into full view. In cases where the fundus leans very much forward, the os tincæ is proportionally directed backwards, and the uterus and vagina meet at an acute angle. When this happens it is a very difficult thing to engage the vaginal neck in the open end of the metroscope. The projecting long lip of the bevelled speculum enables you, however, to catch the os uteri and raise it upwards far more readily than any other other instrument that I am acquainted with. When you have properly engaged it you can inspect the part at your leisure. The great variety of appearances in different cases, thus disclosed, shows how important it is for the cure, to be able to appreciate them, and adapt the means of cure to the end.

When you find the whole cervix uteri much swollen and red, the inner aspect of one or both lips of the os red as a raspberry—or studded all over with clumsy points like minute red currants; when you find the epithelium gone, and the superficies it has abandoned bleeding at the touch of the bit of sponge held in your speculum forceps—the orifice of the canal of the neck streaming with mucus resembling white of egg—the mouth of the womb gaping wide enough to admit the end of your finger—what shall you say?

You can say nothing else than that here is an inflammation to be cured—and how cured? Drop four or five Swedish leeches into the open end of the speculum, and push them down to the bottom with a bit of sponge large enough to keep them from coming out again. In one or two minutes, they will begin to bleed the engorged capillaries, and four such leeches will make four punctures, which from first to last will discharge four to six ounces of blood—and that is enough—for, as the uterus weighs only two and a half to three ounces, six ounces are equal to twice the weight of the whole organ.

You ought to use the foreign sort of leeches, because our American

leech does not draw so much—and you understand that it is very desirable to get the greatest quantity from the smallest number of punctures. It is not a matter of indifference whether you make one or twenty punctures in the inflamed cervix—for there are certain forms of these inflammations wherein these leech-bites heal very reluctantly, and tend to convert themselves into ulcers.

Nitrate of silver, when applied to inflamed tissues—I mean when discreetly applied—has, in the highest degree, an antiphlogistic influence upon them; and it often happens that two or three contacts of the crayon of caustic completely cure an inflammation of the most chronic character. Such contacts with the caustic pencil ought not to be daily repeated, since the too frequently renewed operation is more likely to be hurtful than advantageous. Make for yourselves, here, an absolute ideal of the operation you are about to perform. It is not enough to consider that nitrate of silver is a remedy for these disorders; for to say so, in vague general terms, is to say what is not true; for if you take a bit of fused nitrate in a port-caustic and hold it for a short time against a moist living tissue, it will dissolve or destroy it. You see then that you can if you please make a destructive contact with the pencil. But you by no means desire to destroy any portion of the tissue. Again, if you make so sudden and short-lived a contact as you could do, by barely touching the surface for an instant of time, such a touch would be indifferent and of none effect. You see, then, that you can make either destructive or indifferent contacts; neither of these do you desire; but what you seek to do is to make an antiphlogistic contact, and it is beyond question that you can so use the pencil as to procure from it the most marvellous antiphlogistic operation. Such contacts are in the highest degree curative; they act, I suppose by a contra-stimulant power that, by establishing another and non-injurious vital status, expels or becomes substituted for the other or morbid action. Therefore, before you proceed, reflect a moment, and carefully determine what it is you are about to do, whether you are going to make a destructive, an indifferent or an antiphlogistic application of the nitrate crayon. How often should the cauterization be made? That is the question.

I have seen a patient to-day who told me that she had been under a very long course of treatment by cauterizations of the os uteri, which were repeated by the surgeon every other day. Judge ye, if this was not an imprudent and abusive use of a good remedy. Suppose you should apply a crayon of caustic every other day for several consecutive weeks to the os uteri of a perfectly healthy woman. Would not she soon be affected with a distressing inflammation of the part? Do you

answer, yes? Then let that answer govern you in regard to the administration for persons who are sick.

In case you are using the caustic to cure an ulcer, to cut down a vegetating mass of granulations, to root out a vasculo-cellular polyp as big as a nut, you may cauterize it daily, for your object will be to get a new and healthy surface; but, having got at that new and healthy surface, your game will be gently to stimulate, and not violently to inflame the textures that you are desiring to heal. You should, in good time, cease from cauterizing it altogether.

You should remember, that, in the course of the treatment, the nervous sensibility of the part undergoes changes as the cure goes on; and that a dose of the caustic suitable on the first, would be too weak or too strong on the tenth of the month. Do you ask how are we to judge, and how decide as to the strength of the application? There is no other way than to try to judge—to acquire the habit by Touch, or by inspection, of determining what force of the agent is requisite for the special case. "Judge in your wisdom and awake your senses, that you may the better judge;"—learn not to be mere routineers—miserable machines in the hands of the authorities. Kick the authorities out of doors, and be yourselves authority for yourselves. This is the way to show yourselves free and independent, and it is the only way; for, if you think yea or nay because Hippocrates or Sydenham thought so, you are their slave, their vassal. Venerate those good and great men—they are worthy of veneration; but, though masters in one sense, yet are they not my master—nor your master.

You will meet with many cases of engorged and inflamed cervix, that will not get well until you cure the constitution—because many of them are merely local results of constitutional disorders. Constitutional disorders, did I say? What is a constitutional disorder? In my opinion, a constitutional disorder is synonymous with a nervous disorder—a disorder of the nervous mass. That nervous mass is the creature. If it, if the creature be sick, the dependencies of it are liable to fall into morbid states. Many of the uterine maladies are mere expressions of a feebleness or of a dyscrasy of the nervous mass; and most of such cases are dependent upon debility of that mass. The means of redintegrating a debilitated nervous system consist chiefly in prudent alimentation, and in the use of corroborants, as iron, wine, vegetable bitters, air, and judicious exercise. All cases of womb disease, therefore, are not to be best treated by sending the woman to bed for months together; on the contrary, some of them admit, and even demand a treatment by exercise, and by all the arts we possess for the augmentation of the ratio of the solid constituents of the

blood, and the reduction of the figure for the watery element of it. It boots not that I should here repeat the commendations, already reiterated in this volume, of the metallic iron of Mr. Quêvenne. Indeed, since my first publication on that subject, the iron by hydrogen has been so popularized, that it is in general use by the profession of this country. Let your patient use the iron then in two grain doses, to be taken on a full stomach. Let her breakfast on wine and water, with bread and meat or eggs; and give her a full dinner of meat and vegetables, with her wine and water to wash it down withal.

I must warn you not to be discouraged by the slow process of some of the cures—never tire of acting reasonably. You may pause in order to consider whether your treatment is really doing good or no; and whether you ought not from time to time to change your agents—whether a few leeches, well timed, might not assist in the subduction of the uterine hyperæmia—whether you ought not to allow a velvety sponge as big as a walnut, imbibed full of a solution of extract of conium, or of belladonna, or morphia, to lie in contact with the cervix for a few hours daily, or every other day.

You should consider the probable usefulness for the patient of a cupping or a blister on the sacrum or the hypogastrium, or a seton above the symphysis pubis.

Think whether a dose of compound powder of jalap, taken thrice a week, might not dislodge the intra-pelvic irritations of your patient.

Think on the power of the warm-bath, the sitz-bath, the emollient enema, and the nightly use of an anodyne enema, as remedies.

Think whether the engorgement and the pain may not depend upon a deviation or a prolapse of the organ, and whether the true remedy is not to be found in some form of the pessary.

C. D. M.

LETTER XX.

POLYPUS UTERI.

Gentlemen: Let us now proceed to make some inquiries concerning polypus of the womb; and, I ask, is it not obvious that all the tissues of a living body are ever undergoing a perpetual accretion and waste; that the perfect balance between this deposit and absorption maintains all the organs and the parts, and the whole body in one even tenor of health, of weight, and dimensions, for months and years of

time; and that the loss of such a balance or equableness in the waste and deposit changes the weight and dimensions as well as the health of the body, or of any of the parts or organs of it? But when the accretions of a part become excessive, then we have either a hypertrophy or a tumor. We cannot have a tumor nor a hypertrophy of the whole body, unless you please to regard King David's antagonist the son of Anak, as a mere hypertrophied man!

It is one of the standing miracles of nature, that the bodies of creatures are maintained at one even tenor, not only through the lifetime of the particular individual, but from age to age. Thus, a single herring shall develop three hundred thousand eggs, from each of which shall be evolved a herring, whose weight in no instance, perhaps, in the countless myriads of that tribe, will ever be found to exceed by one hundred per cent. the weight of a perfect fish of its genus Clupea.

On the other hand, an army of wild pigeons so numerous as to darken the air for days and days of its migratory flight will not contain a single pigeon as large as the barn-door fowl; because each genus of creatures, by its miraculous generic law, is limited to a certain stature, weight, and dimensions.

The same thing is true of the vegetable tribes. You shall never expect to see an arbutus rival the forest oak, nor a violet to grow on the branches of a trunk as tall as the plane-tree. You wonder not, nor become amazed at this miraculous order; but you and all your county would turn out in crowds to see an ear of Indian corn growing on a wheat stalk, or a magnolia grandiflora blossoming on the tender vine of a cucumber. You are, therefore, not surprised at the daily miracle set before your eyes in the order and regularity of Nature's operations; but you are startled, and lift up your hands in a gesture of wonderment, when she errs, and in her errors gives rise to some unnatural form or conjunction; you think of a

"Sæculum Pyrrhæ, nova monstra quæstæ."

Do you not perceive reasons to be far more surprised, when you observe that men and women too are found to live out their threescore years and ten, and even longer, without having experienced, during their whole life, a single deviation from the natural forms and weights of their organs, or of their external configuration?

There can never be deposited in an organ any atom or moleculum of its constituent tissue, but by an act of a bloodvessel, which puts it down in its place, and puts down the true physical elements in the right place. But the bloodvessel that carries and deposits the molecule can only deposit it under the indicating and controlling force of the accom-

panying nerve. You are very well aware that each organ has its own nutritious artery to convey to it the materials for its daily accretion; that it has its lymphatic absorbent, to remove the daily detritus of the life of the organ; and also its generic nerve, which indicates and controls, by its force, the kind, as well as the amount of the daily deposit, and the kind and amount of the daily absorption.

You do not doubt, if the generic nerve becomes compressed, or is tied or cut off, or softened, that the organ will waste away, or become atrophied, however sound and perfect the artery may remain; or, if too energetic in its indication and compulsion of the daily deposit, that the organ may become inflamed or hypertrophied, from a faulty rate of action of the generic nerve.

In the womb, for example, the daily detritus and accretions of life will maintain the form, consistence, and weight of that body in one even tenor, for a lifetime, if it continue obedient to the generic law of its development—for that law which tends to keep it always two inches long, and of the weight of two ounces, and of a certain form, is as truly a generic law for the womb as is the law that determines the genus Bos, or Equus for those genera. But, if it disobey its generic law! What then?

Now, in the code of morals—the Decalogue—we have plainly set down for our guidance certain rules or laws of action, to be obedient to which, or to be disobedient to which, constitutes us good or bad men, righteous or sinners.

So, in the physical nature of living beings, there is a law which they ought to obey, and be bound by; if they disobey! if they fail to be governed by the provisions ordained for their just maintenance! then they may be likened to sinners against the moral law. They, in fact, do sin, rebel against or contemn the law ordained for their government, their protection, and security. In this physical disobedience, I can perceive a close analogy with moral disobedience. In each, it is the first step that is fatal—*c'est le premier pas qui coûte.* In the moral law, the first sin, or corruption, leads to still renewed wickedness, until the whole moral constitution of the man is subverted, changed, and ruined, and becomes a mass of moral pollution. So, in the physical, or organic sin; the first error is followed by the second, until the entire constitution of the organ is subverted and ruined so completely, so completely changed, that the most expert anatomist can no longer detect its old familiar features in the depraved and heterologue mass that lies under his scalpel or is scanned by means of his doublet.

In the hopeless wreck of the moral creature, brought about by vicious indulgence, the voice of conscience is raised in vain, the appeal of reason

is powerless; the invitation of the minister of the Gospel is like the idle wind, and suasion and argument equally fail to recall him to the path of duty and safety. Just so is it in the physical sin of the organs; when they have fairly broken the generic law, they continue free from all future bonds, and go, like the idle wind, where they list, and no one knows whither. It is in vain that you apply the restraints of your hygienic and therapeutic forces. The heterologue mass has no generic law, and the cry of the rest of the organs that suffer for its rebellion, like the cry of society against the breaker of the common law and the contemner of the statute, is raised for ears that are deaf. Such an organ is become like a wild horse in a boundless plain, that scorns the caress; and, fleeter than the winds, will not bend his neck to the accustomed rein.

I have been led into these reflections by having witnessed to-day, June 10th, the dissection of a preparation brought into the city by two medical gentlemen from a distant county. Prof. Horner made the examination. The whole mass weighed thirty pounds, and consisted of a womb, very much thinned and attenuated, which, upon being laid open by an incision from the fundus to the os uteri, disclosed a solid tumor, whose weight could not have been less than twenty-nine pounds avoirdupois. This solid mass was a *fibrous polypus*, springing apparently from the side, not the fundus of the uterus; and attached here and there by strong exudation or accidental attachments—the results of pressure and inflammation long endured.

Now, this vast mass probably sprung, at the beginning, from the very slightest aberration of the development force. The offence was small, and then became greater, until, in the end, you see how "rank" it was. What therapeutical power could you bring to bear as a control upon such a heterologue mass as this polypus of twenty-nine pounds avoirdupois; a polypus whose sole connection with the living constitution of the poor victim it destroyed may have been by a root, neck, or pedicle, not bigger than your thumb?

Don't you see what a physical sinner it was, and how small was its first offence? It had broken its generic law, and you perceive the end.

Let us take good heed that, in our small and venial offences, we do not at last come to say with the king—

"Oh, my offence is rank; it smells to heaven!"

This parallel between the moral and physical states of disobedience to the laws that ought to govern both, I have run in order that I might haply impress your minds, and my own also, with clearer perceptions of what we have to hope, and what we have to fear and do in the con-

duct of those maladies that are, in the strictest sense of the term, chirurgical. I also wish that the analogy I have set forth may not be without some advantage in its moral, since from it we may lay to heart the equal necessity, in morals and physics, of opposing the very beginnings of evil; and since we ought, like Jacques in the forest, to be able to find "sermons in stones, books in the running brooks, and good in everything."

But let us leave moralizing, and return to our physic; all the cavities of the living body, as the cavity of the nostrils, the ventricles of the brain, the womb, and even some of the solid parts, are liable to become the seats of excrescence or growths, some of which take the name of polypus, which is a tumor growing by a narrow neck, or root, out of any superficies, and extending itself in length and breadth to an extent limited only by the duration of the life of the patient, and by accidental strangulation, or death taking place in the tumor itself.

Such a tumor is a polypus, which may be either hard or soft, being called in the former case a fibrous, and in the latter a cellular or cellulo-vascular polypus. Such a tumor possesses a low organic life. It has a scarcely traceable interior circulation, while its superficial circulation is in many cases active enough to give rise to profuse hemorrhage: without some internal circulation, it would be subject to decomposition; without an active superficial circulation, it would not grow. Its growth is supposed to be peripheral.

A polypus of the womb is far from being a rare chirurgical malady. A polypus growing from the interior of the uterus may be supposed to be, in its earliest state, a small excrescence like a papula, which, rising higher and becoming broader at the base for a certain space of time, ceases at length to grow at the base in breadth, but elongates itself, spreads out into an utero-morphous mass, filling the cavity of the organ more and more as it grows larger and larger, sometimes distending the uterus enormously, as in the instance above mentioned, and in other instances pressing itself into the canal of the cervix uteri, and so dilating it as to find its way at last through the os tincæ, whence it slowly advances into the vagina, then expanding in a lateral direction, so as at length greatly to distend that organ, and at last, when sufficiently grown, emerging from the genitalia in form like a pear.

A polypus, then, is a tumor either fibrous or cellular—that is, either hard or soft; springing by a narrow neck or stalk from the womb, and increasing in size daily, so as to distend and fill up the womb to a considerable size: or, otherwise, it may dilate the neck and mouth of the womb, so as soon to come forth into the vagina, or even to project beyond the ostium vaginæ.

A polypus will not, in all cases, come out of the womb; especially will it not come forth to disclose its true nature in those cases where accidental adhesions have taken place between it and the womb. In such a case of adhesions, it would be in vain that the womb should make efforts to cast out the incumbrance; no pain nor contraction could get it forth from a cavity to which it has become attached in consequence of adhesive inflammation. In all cases, however, where the sole connection of the polypus and womb is to be found at the root or neck of the polypus we have reason to expect, in the long run, that the uterus will become irritated into contractile or labor-pains, and cast it out just as it does cast out a dead ovum or embryo that has perished in the early months of pregnancy.

It is very possible that the earliest beginnings of a uterine polypus may consist merely in hypertrophy of some superficial layer of the womb, or else in a hypertrophy of some area of its tubular mucous membrane only, and that the tumor, in this sense, is either a part, and a real part of the womb itself, a fibroid partaking of the true nature of the uterine tissue: or, if it consist of altered mucous lamina only, it will be soft, or cellular—but, whether the growth proceeds in such a way as to make it come to be either a fibrous or a cellular polypus, it cannot be supposed that it will go very far before the new accretion will become really heterologue, and thus give rise to a mass growing from the uterine surface, nourished by branches of the uterine or spermatic artery, yet retaining, in its histological character, no true features of the womb from whence it derived its origin. I have met with instances of enormous enlargement and malignant degeneration of the whole inner or lining membrane or mucous lamina of the womb.

Such a tumor has no generical limit; it is not a part of the natural body, though it is attached to, and derived from it; it might grow to the weight of a ton, could it be supposed to continue in the reception of its pabulum from the uterine branches to which it owes its existence. It has no generic delimitary term; and it can have none; seeing that it carries with it no special absorbing apparatus to counteract the accretion power which it receives from the vessel that makes the deposit and from its nerve. It is probable, as I before said, that most of the increase which it receives is derived from the exterior surface of the tumor, which, even in the most enormous tumors of the womb, it is said, may be successfully injected upon the more superficial portions. Dr. Th. Safford Lee tells you, at page 8 of his book on *Tumors of the Uterus*, that an injection may be made to penetrate "the morbid mass," and that 2268, 2270, and 2266, in Guy's Hospital, are cases in which the injection has been made; but surely, Dr. L. would not

suppose that such a tumor as he has beautifully figured in Fig. 2 of his plate could possibly be injected by the anatomist; at least not the whole of it.

Such a tumor carries with it, in its augmentation, delicate prolongations of the arterioles and capillaries, from which it draws the material of its daily accretions. It probably also carries with it a certain amount or form of nerve fibrils, without the presence of which it would be subject to putrefaction; but those nerve fibrils may reasonably be deemed to be imperfect in their action, and as serving merely to retain the growing mass in vital relation to the body of the woman, yet unable to restrain and modify the accretions as they can and do in healthy normal function of the development forces. I deem that there cannot be truly any life where there is no cerebral or nerve matter; but I can well conceive that, in the case of the most extreme deviations as to form, magnitude, and consistence of organs or parts, by their conversion into tumors, there must accompany them portions of nerve matter, deriving a source from the nervous system of the patients, yet so imperfectly connected with it by constitution or power as to lose the faculty of controlling the development of such said organs or parts. Certainly, wherever there runs a bloodvessel, there must be an accompanying nerve; for a vessel is ever accompanied, and as it were sheathed in a nerve-plexus.

If this view of the case be just, it would be idle to attempt to modify or control the growth of such a tumor, by means of drugs and medicines administered internally; since, however powerfully such drugs and medicines might be able to modify the actions of the woman's constitution under its natural physiological laws, they could not reach in their influence, nor in any degree control the accretion forces employed in the production of the polypus; which, being heterologue, will not, neither indeed can, come under obedience to the specific or generic physiological law of the woman's life; a law with which it has no longer any lot or part, beyond that of living as long as she lives, preying as a parasite upon her materials, and sending back no answering organic influences to serve in maintaining that beautiful harmony of the organisms whose concert of action is life. Such a growth is not a part or parcel of the economy; it is not like one of the members of a family or a flock, but is like a stranger or a thief and a robber, that has entered in by guile or by violence, to dwell among them and to disturb and destroy them.

Hence you see that such tumors are to be treated chirurgically and not medically. They may be extirpated, they cannot be cured. Save

yourselves and your patients, therefore, the trouble and loss of using physic or drugs.

In a womb that becomes the seat of a polypus, it is natural to expect the signs of uterine irritation. Therefore, as soon as the excrescence begins to acquire a certain volume, and to press upon and distend the cavity of the organ, we may expect to find the fruits of such irritation in diseased sensations, as pain, weight, tension, modification of the menstrua, white and sanguine discharges, &c. It is true that we shall not be able, in the early stages, to make the diagnosis of such a tumor, because, when it inhabits the cavity of the womb, and expands that portion of the organ only, it may not in the least degree change the form and dimensions or resistance of the cervix. We have no art and no skill, under such a state of things, to pronounce confidently as to the existence of a tumor; though we may be induced to infer it from the total absence of signs of other malady. It is inaccessible to our touch or sense.

A woman, otherwise in good health, shall, at irregular periods, be attacked with uterine hemorrhage, whether moderate or violent, and when you come to make your diagnosis you can by no means discover that there is any inflammation, ulceration, deviation, hypertrophy, plethora, &c., on which to rely as sufficient cause for the irregular and alarming attacks of flooding.

You are fully resolved that it is not a menstrual hemorrhage, for the causes of menstruation are not so irregular in their operation as to allow you to call it mensual hemorrhage; what course will you take to clear up the difficulty? I see not what other recourse there is than that of accusing a polypus of the womb. The womb-sound or womb-probe will not, I think, throw any very clear light upon the case for you. The vaginal taxis and the hypogastric exploration cannot clear up your difficulty, if the polyp be yet a very small one. It is a process of ratiocination that leads you to the one and only possible conclusion. The case is one of a polypus, because it could be nothing else.

I have not been afraid to make such a diagnosis. I had for ten years the care of a female, who, at the age of about thirty years, was repeatedly attacked with the most alarming uterine hemorrhage, accompanied with severe pelvic and hypogastric pains. I do not suppose I have ever met with more violent hemorrhages of the womb than in the person alluded to. It seemed scarcely credible that she could survive the attacks. She was very thin, and feeble, and pale, and rachitic. I never could detect any augmentation of the size of the fundus and body of the womb by the Touch, or by external palpation, and yet so free was she from all the symptoms of other disorders of the interior of the

womb that I ventured to tell her she had polypus, which at some future day would surely disclose itself.

I was called, in the course of consecutive years, many times to this person, on account of the frightful hemorrhage and pain with which she was attacked; and I repeatedly explored the case by the vaginal and rectal Touch, and the hypogastric palpation. I could never detect any certain physical signs of the malady, but rested convinced that a polypus was concealed within the womb. At length, amidst the severest pelvic pain and a great flooding, the polypus was expelled into the vagina, and I removed it with Dr. Gooch's double canula. After which, she had no more return of the hemorrhage. But she died, two years later, with pulmonary consumption, connected with a distressing rachitis, and precipitated, I suppose, by the extreme debility brought on by ten years of repeated hemorrhages. Life had become a burden to her, and she died with a countenance beaming with smiles, as she faintly repeated, in broken and scarce audible whispers, the beautiful verses—

> Vital spark of heavenly flame!
> Quit, oh! quit this mortal frame;
> Trembling, hoping, lingering, flying;
> Oh, the pain, the bliss of dying!
> Cease, fond nature, cease thy strife,
> And let me languish into life!

Do you ask me why, in a Letter on Diseases of Women, I cite these mal-à-propos memoranda of a death-bed; and which have nothing to do with our subject? I answer that my Letters are about women, as well as their diseases and remedies. I would not forego this opportunity connected with her case, to make mention of one unknown, humble, truly pious, whose gracious manners, whose noble sentiments and heaven-tempered spirit, as well as her willing submission to an inevitable and painful fate, filled me with admiration of the characteristics of woman. I have seen a man die with the dignity of a Christian and a gentleman; none but a woman could die with such gentle and feminine grace and beauty as poor Anne Ryder. In her, her nature was wholly unchanged until the last dull clogs of her mortality were already cast off.

There is nothing so difficult, my dear young friends, as to become a physician from the reading of mere descriptions of disease in the books. To read those descriptions is well, nay, indispensable. But to understand them, one must see the cases, and compare them with the book description. I can hardly flatter myself that I shall be peculiarly successful in teaching you how to discriminate between the different maladies that are often characterized by the same outward signs. Let me hope, how-

ever, that I can describe a case and a conversation that I had some time ago with a patient; and we shall see whether I can give you a clearer view than you now have, of the method of proceeding, and of the rationale of an opinion, that you may readily form without greatly vexing your patient.

Notwithstanding some of the critics who honored the first edition of these letters with their notice have rated me severely for introducing these dialogues, I hope you will not disapprove of them. I desire only to make my meaning plain to you who are young and inexperienced. Hence I am willing to bear the reproach of the literary martinets, if, by so doing, I can make you understand these mysteries, which I fear some of the reviewers themselves have no very clear notions of. I wish you to look in with me upon a patient of mine, and hear me talk to her, and judge why I ask her certain questions, and conceive what inferences I deduce from her answers. I am going to tell you a true story; why should I not tell it in my own way? I am sure a writer should use his own manner, and not that of another, if he should be truly desirous to set before his reader any statement of facts or argument. Here is my story, and it is a true one.

The person in question was a very tall, slender woman, a widow, who lived in Sugar Alley, near Seventh Street; she may have been some thirty-eight years of age, and had children.

When I went to her chamber, she sat at an open window sewing the leather binding on a truss, which was her trade or occupation. The room was about fifteen feet square; and I seated myself near the door, while she sat at the window, say fifteen or sixteen feet off. She was a stranger to me, and I said,

"You wished to see me as to your health?"

"Yes, doctor, I have been long sick, and knowing that you attend many women, I was in hopes you could tell me what's the matter."

"Why, you look very pale; too pale and weak to work, I should say. Pray, how long have you been so?"

"Oh, a long time, sir."

"What makes you so pale, though?"

"I am all the time *unwell.*"

"I should think so. How long have you been *unwell?*"

"Six years and a half."

"Six years and a half! Do you mean really to say six years and a half?"

"Yes, sir. I have not been free from my courses for six years and a half?"

"What! not one day?"

"No; not one day."

"Tell me; are you serious when you say that for six years and a half you have not been a single day without an issue of blood?"

"Yes, sir, perfectly serious; I have not passed a day without a show, and sometimes a flooding, for six years and a half."

"But that is enormous; yet to look at your face and hands, and to see how pale you are, one might well believe it."

"It is perfectly true."

"Have you any pain?"

"No, only weakness."

"No pain in your back, nor in the lower part of the bowels, nor thighs?"

"Not the least; only weak."

"No offensive discharge?"

"No, sir."

"No burning sensation, no shooting pain within, and between the two hips?"

"Not the least."

"Are you much *unwell* still?"

"Sometimes very much—sometimes not much—but I'm never without it."

"Any trouble about making water?"

"No, sir."

"No pain at the stool? no difficulty?"

"Never."

"And you have no offensive discharges?"

"None."

"Then you have a polypus of the womb."

"What is that?"

"It is a tumor, or lump that grows in the womb; it has a narrow neck, which lets it hang out of the womb into the passage; it has bloodvessels, that always bleed."

"What causes it?"

"I'm sure I don't know. Nobody knows; it comes without any ascertainable cause; it comes in women who bear children, and in those that have never had any, as well as in unmarried women."

"What can be done for it?"

"It can be removed with a ligature; that is, by tying a string round its neck, whereupon it will fall off, and then you will bleed no more; but, if you do not lose your blood, you will grow strong and healthy again."

"But I cannot let you do it."

"You ought to have it done; at least, you ought to have it examined, for, though I am very sure of finding the polypus, I have never yet had any sensible sign of it. I only judge it to be there."

"I cannot."

"Very well, madam. You have bled six years and a half; you are greatly reduced; your blood is thin as water, and if you go on much longer, there is fear you will have a dropsy, and then lose your life. Would that be wise, or foolish?"

"I can't help it; I cannot think of being examined."

"Very well; it is your affair, not mine. I have no other advice for the present than that you should carefully revolve the prospect before you, and, if you should change your mind, you can let me know if you should desire to see me."

And so I left her to her reflections. On the next day she begged me to return. I went to her, taking my Gooch's canula with me, and found a soft polypus, large as an egg, on the neck of which I threw Gooch's ligature, and the tumor fell off in less than twenty-four hours; after which she had no more hemorrhage, but recovered her health and strength.

Now the above is, I think, very near literally the conversation I had with Mrs. ——, and since you have read it, I ask you what other opinion I could possibly take up as to her case?

She had no pain; therefore she could have no carcinoma: she had no disagreeable odor of the discharge; *à fortiori*, she could not have cancer; she had been *unwell* six years and a half without a day's intermission; but that was not the character of a menorrhagia. A woman can menstruate only as she ovulates. If she bleeds for weeks in succession, it must be from other than her ovulating force. It must be that she has some insensible tumor that will bleed always, and yet never give her any pain; what insensible tumor? There is none other than polypus uteri. Had I not, therefore, a just ground to make the inferential diagnosis of polypus uteri, and to indicate the proper treatment.

What a shameful mistake to have said—it is change of life—it is weakness—it is irritation—menorrhagia—it is this, or it is that, and so compel the woman to swallow drugs, *usque ad nauseam*, and at last find one's diagnosis proved erroneous to the discredit of Medicine, which is always discredited by the mistakes of physicians. Sixteen years after the events above related, this same woman came into my office. I did not know her, she was very stout and robust. She came to pay me for my service to her; and having recalled to my mind the circumstances of her case, and saying she was now in easy circumstances, she had come to give me a fee I had never solicited. She had

never experienced the slightest inconvenience from her disorder, from the time I removed the tumor. She gave me a proper fee, which I willingly accepted, because she had more pleasure in tendering, than I in receiving the testimony, the *honorarium*.

A polypus of the womb, I have said, cannot come out from its nidus, provided it have become attached at various points to the uterine walls, by inflammatory adhesion. You are not to be surprised that such adhesions do occur, for as the superficies of the polypus is quite vascular, and covered by a smooth membrane, which is probably of the nature of mucous membrane, adhesions would be very likely to ensue upon the escape of exudation particles from the uterine, or from the polypous surface.

I have no hope to offer for such cases. It seems to me in vain that any one should attempt to extirpate, and I have no faith in the curative power of drugs for them.

I am unable to state what is the difference of the causes that on the one hand produce fibrous, and on the other cellular, or soft polypus. I believe they are equally curable by the ligature; at least, I have not met with any instance in which, after the removal by the ligature, the tumor has again proved troublesome by renewed development from the root; which is not a little wonderful, seeing that, whenever we destroy one by the ligature, we must leave the base or root from which spring all the vessels and other apparatus concerned in the nutrition and development of the tumor; and that might well grow again.

I have met with no case in which I could accuse the polypus of malignant degeneration, except one that I saw in the Lying-in ward of the Penna. Hospital; and that, perhaps, was not a true polypus in its origin. It was the case of a stout, short woman, about fifty years of age, who had long had putrid sanious discharge from the womb, and in whom, after a long time, the os uteri opened sufficiently to admit of the introduction of two fingers, by which a mass occupying the cavity of the organ could be felt. I in vain attempted to pass an instrument containing a ligature, and was obliged at length to break the mass with the fingers, by means of which I got away a large handful of heterologue material, half fibrous, half cerebriform, to the considerable relief of the patient, who at subsequent times was relieved, in the same way, of considerable portions of the same kind, as the contractions of the womb forced them down within the reach of the fingers. But, although a considerable quantity of it was brought away, the production of it continued. The woman left the ward at length a good deal relieved, as it was thought; but it proved otherwise in the end. Her sufferings be-

came very great, with all the marks of malignant degeneration of the uterus.

I know that Dr. Dewees attended a lady here, many years ago, affected with polypus uteri; he removed the polypus, as he informed me, and unmasked a cancer of the cervix, which soon afterwards destroyed the patient.

You will find, in your studies, that it is conceded the presence of a uterine polypus may lead to malignant disease of the womb. The same thing happens in polypus of the nose, or antrum. The distending pressure of the tumor alters all the tissues that are in contact with it. The same might be true of the uterus and vagina.

There are various instruments for putting the ligature on the neck of a polypus.

I prefer Gooch's to all of them; and I think the ligature is to be preferred to all other modes of extirpation. It is not in every case to be effected without hemorrhage. I know of two cases here in which the hemorrhage was terrible; but there is less danger from hemorrhage by this process than by that of twisting or avulsion of the tumor.

Whenever you are called to a case of polypus uteri, in which the neck of the tumor can be secured by a ligature, it will be your duty to put it on. You might be able to put it on in certain of the cases even where the tumor is still contained wholly in the womb; but, in order to such a great success, it will be indispensable that the os and cervix uteri shall be both dilated and dilatable; and the polypus ought not to be a very large one. Where the polypus is of vast size, an instrument used to conduct the ligature upon its neck should be so curved as to fit the convexity of the tumor, and the coincident concavity of the womb. It must be a very difficult task to arrange the curve in a proper way; and if it be not so arranged, the pressure of the instrument could not but be very dangerous; since the inner wall of the uterus is ill calculated to suffer the forcible contact of any foreign body long continued. Upon the whole, then, I am disposed to advise you, where the polypus is still within the uterine cavity, to wait until it is forced into the vagina, where there is little difficulty, and perhaps no danger, attending the operation of tying it.

Dr. Lee, *On Tumors of the Uterus*, p. 69, says, in speaking of the treatment of polypus: "Supposing it to be placed within the cavity of the uterus, and the os uteri closed, it would be folly to attempt its removal; we must suppress the bleedings by plugging the vagina, rest, an elevated position of the pelvis, and local cold, with some refrigerant drink."

I am glad to be able to quote so sensible a writer in behalf of so sen-

sible an injunction; for there are cases of persevering endeavors to extract large polypi from the womb, that bespeak more obstinacy than prudence on the part of the practitioner. Indeed, some of these operations are rather to be regarded as professional assassinations than proper surgical proceedings.

The rule is a good one, not to attempt the extraction until the tumor has passed—partially or quite completely into the vagina. I do not mean by this to say it is not to be done until the whole tumor has come down, but only that we should wait until it is so far descended that the uterine cavity which still contains a part of the mass shall have become a cylindrical, and not a globular or pyriform cavity; whenever it has become cylindrical, which will be the case where the major part of the polypus is pushed out, no objection can exist against the casting of the ligature upon it.

To adjust the ligature upon the polypus even in the vagina is often a vexatious and difficult task. Take patience for the work, and be not in a hurry to get it done. If the vaginal walls are tense, you will require some time.

Let the patient lie upon her back; the hips to the very edge of the bed; the feet resting on the backs of two chairs, well separated.

Let the Gooch canula be of a good length—most of them are inconveniently short. See that the ligature is long enough not to annoy you with the rings interfering with your hands. See that the ligature be well oiled, so that it may run freely; strong enough not to cut or break; and small enough to move freely in the canula.

Arrange the canulæ so as to have them parallel in the right hand; introduce them, parallel, to the greatest depth; and then, taking one in the left hand, while the other is held in the right, carry either the right or the left hand one round the tumor, until you bring it parallel again with its fellow. In this way, you will have cast the ligature round the neck of the tumor; next, you are to slip the canulæ each into its ring at the end of the staff, and slide that ring to the top, securing the foot of each canula in its cannon. If great care be not taken in doing this, the ligature will be apt to fall off. You will know whether you have succeeded, upon gradually tightening the cord. If it has taken proper hold, it will pull the polypus downwards when you draw with it. Take great care to slide the ends up as far as possible, so as to get as much as you can of the base or neck of the tumor in the loop, and then draw it as tight as possible, so as effectually to strangulate the mass. If the polypus be a cellular one, you may expect it to fall off in twenty-four or forty-eight hours; if it be a hard fibrous one, it sometimes requires seven or eight days to cut it through.

The woman ought to be put to bed, and commanded to keep her bed, until the canula comes away.

Once a day, the ligature should be tightened, as the compression is lessened by the daily shrinking of the mass.

As soon as the mass dies, a most foul and offensive discharge comes on, which requires all the cares of cleanliness. Sometimes, when the apartment is warm, copious injections of soap and water should be made with a syringe having a gum elastic tube adapted to the metallic fistula.

If the polypus is very large, you can pull it away with a Muzeux forceps, or with a sharp crotchet, or even with the obstetric forceps.

In some cases, the tumor has been so large as to require to be divided before it could be got away, by a polypotomy operation, as one might call it.

The extirpation of a uterine polypus is a very beneficent operation, as it relieves the patient from wasting hemorrhage, and from mental anxiety and physical pain: she soon recovers her health and spirits, and is in general grateful for the relief, as much so, probably, as for any surgical operation whatever; but you cannot always do the operation. For example—some months ago, a lady came to me from New Jersey. She had been for some years laboring under a uterine disease, accompanied with violent and exhausting floodings. Upon arriving here, she was wholly unable to walk or to sit up in her chair. I discovered a hard polypus, whose apex was lying just within the os uteri, which was a circular opening as large as a half dollar. This os uteri was pretty low down in the pelvis; it was very hard, and completely undilatable. The fundus uteri was half-way up to the umbilicus, and the uterus hard and solid, so as to allow me to trace its outlines very clearly in my hypogastric palpation. I assure you I have rarely met with a more extreme case of anæmia than in this person. This anæmia was evinced not only in the pallor of her surface and its flabbiness, and in her irregular breathing, the frequent palpitation of the heart, and the anæmical throb of her pulses, but in the state of all her innervations, which were most miserable, indeed, except when lying profoundly still in a low recumbency.

After a few days of refreshment from the journey, I attempted to do what I thought I should fail to do; namely, to get a ligature on the tumor. But I soon found how vain was such an attempt, for I never found the uterus a moment relaxed, nor to open beyond the size of half a dollar. My attempt caused an attack of hemorrhage to come on, that I was glad to suppress by cold, by rest, and by opium.

I kept her here many months, in hopes of seeing the uterus enter into powerful contractions to throw off the morbid mass. I gave her

large doses of ergot. I thought the ergotism that was produced might expel the polypus, but I was disappointed, and subsequently had reason to believe the tumor had formed strong attachments to the inside of the uterine walls, so low down that I could reach them with my finger, but could not break them up.

During her residence here, I thought to see her bleed to death before my eyes; her life was hardly saved by the tampon, so perverse was the hemorrhage. At length I sent her home, with directions as to her health, and a request to be informed if the tumor should descend into the vagina. It could never descend into the vagina, if the adhesions I supposed to exist were truly there. This lady died within a few months. She returned to Philadelphia and employed a medical gentleman to take charge of the case. He performed an operation, I know not what, and she died within a few days after it, before the ligature had come off.

I have mentioned this case to you, in order to show you, in the first place, that I could by no means cause that os uteri to dilate; neither by manipulations nor by force of the ergotic spasm; and in the second place, and chiefly, in order that I might tell you what happened in the course of my treatment of it. It is this: she came here most deplorably anæmical. She continued here many months, during which time she always had some show, and suffered several severe floodings, one of which, as I have stated, was wellnigh fatal. But, except when reduced by copious floodings, she was raised, I was going to say, as by magic, into a state of ruddy health, by the daily use of Quênesville's metallic iron, in doses of two grains after each daily meal.

I pray you do not accuse me of being credulous, and as arguing *a propter hoc*, in a *post hoc* case. The phenomena were so striking and so sudden as to convince any one that they ought to be attributed to the power of that article over the blood-membrane, the membrana vasorum communis.

The greatest waste of her blood was followed by a rapid reproduction of it under the tonic power of the article. Do not say that it was her constitutional force that restored her; since, for years, she had been pale, palpitating, and exsanguious; whereas, under the use of the remedy, she rapidly regained all she had lost by the attacks. At all events, I pray you, when such a case shall present itself, and where you cannot get the offending tumor away, I pray you to test the power of microscopic particles of iron over the blood-making faculty, which, as I have so oft repeated in your ears, I suppose to reside essentially in the endangium, a tissue which I deem to be as obedient to the therapeutical influences of iron as the alimentary canal is to rhubarb, or the uterus to secale cornutum. You see I speak very confidently on this

topic. I confess, men suffer themselves to be readily deceived by what they deem experience. But, at least, I conceive that my experience warrants me in this confident belief, a confidence which, while it is confirmed by my diurnal observations, is also enforced by the authority of such a writer as Raciborski, not to mention numerous authorities who give opinions, if not so approving as mine, yet at least such as to recommend the medicine to your careful study, as to its therapeutical powers.

Upon reviewing this letter, I find that I have been less exact, and less full in my account of polypus, than I intended to be. I shall not rewrite it, at least for the present; in fact, the question as to polypus resolves itself principally into this: viz. to discover it, and to remove it by the ligature. That is to say, to remove it when you can, not when you cannot; but you cannot, in cases where it is shut up or adherent within a contracted womb. Physic and drugs are useless in the view of counteracting or retarding the growth of such tumors. Physic cannot hurt the polypus; but it can and will hurt the patient. If, however, the patient bleeds too much, you must check or repress the flow. If the polypus is offensive, you must give such directions as may keep it free from that odious quality. If it gives pain, you must lessen the pain. I do not think you will get any advantage from caustics or cauteries; whenever such things are applicable, the ligature is applicable, and that will eradicate the evil. I beg you to receive this letter, imperfect as it is, with the assurances of that respectful regard with which I am yours, very faithfully, C. D. M.

LETTER XXI.

Gentlemen: In my last letter, which, as you may remember, I begged you to receive, notwithstanding I had prepared it with less care than I ought, but which I concluded to send you, notwithstanding my dissatisfaction with it, I did not say anything as to those polypes that arise from the lip of the os uteri, from the canal of the cervix, or from the surface of the vagina itself; nor, indeed, can I think it very much a matter of consequence to say anything of this sort of cases; forasmuch as, the chirurgical nature and quality of these tumors being once established, nothing remains except that I should apply the proper remedy, to wit, the ligature. This task is comparatively easy in these cases of

polypus, because they are readily accessible, and may be subjected to strangulation upon their detection.

Allow me, however, to put you upon your guard against a mistake that you would be liable to fall into in certain of these cases. I mean the instances in which the polypus is so small that you can with difficulty detect it by the touch; and are even liable to mistake it when you do touch it, for a coagulum.

I have seen one of these excrescences not so big as a grain of corn, and I lately removed one, not much larger than a grain of corn, for a patient who had suffered a constant wasting hemorrhage from it for more than a year; to so great a degree, indeed, that she was rendered thoroughly anæmical by it, and suffered all the miserable effects of an anæmical innervation.

I confess, I was surprised myself upon discovering the polypus to be so very small; having expected to find one as large as a small pear at least. I was in doubt for a while whether so great a waste could have depended on the effusion of blood from so small an excrescence; but when I had taken it off, the waste immediately ceased, and the lady recovered her health and strength; from which, I imagine, I have good reason to believe that the hemorrhage did, indeed, proceed from the polypus.

I have cured several women, by means of the acid nitrate of mercury, of polyps springing from the os tincæ, and which were so small as not to be detected, save by inspection with the speculum uteri. You may refer to my account and drawings of such cases in my treatise on the acute and chronic diseases of the cervix uteri.

Pray, then, remember, that when you have perverse hemorrhages of the womb, not justly attributable to a menorrhagic cause, or to a large polypus, you may, perhaps, by careful exploration by the touch, or by the speculum uteri, make a good diagnostic so as to enable you to cure the patient, whom you could not cure should you happen to overlook the true organic cause of the trouble.

I am afraid that I may in my letters, now and then, lead you into the error of jumping at a conclusion. You ought never to do that: you ought to arrive at all your conclusions in medicine by a regular process of perception and of reasoning. Let me tell you a story about leaping at conclusions, which may serve better to put you on your guard than ten pages of mere homily about prudence and cautiousness.

A gentleman here, for whose medical judgment and chirurgical skill I have the very highest respect, called on me some time ago to request I would assist at the removal of a polypus uteri, for which he proposed

to operate the next morning. He said, the polypus was already partially descended into the vagina; but the patient had been much annoyed by it, both as giving pain and causing the loss of a good deal of blood. He had carefully made out the diagnostic of the case, and would be provided with a Gooch canula for adjusting the ligature.

Upon reaching the rendezvous next day, I found a good many of the lady's friends assembled on account of the operation; and of course no little anxiety was visible in their inquiring faces; for, notwithstanding such an operation is a trifling matter in fact, the women will not so deem of it.

My good friend informed me he had repeated his diagnosis, which was satisfactory; whereupon I was requested to examine the tumor, in order to found my own opinion. When we had retired to another apartment, I said—

"Are you sure, my dear doctor, that your diagnosis is correct in the case?"

"Oh yes, certainly; I made it very carefully."

"I am afraid you have made a mistake."

"How?"

"Why, I do not take it to be certainly a polypus."

"What do you take it to be, then?"

"I think it is a compressed ovum that she has been long casting off, and that is now ready to come away from the canal of the cervix."

"Oh no, sir, not at all; I assure you I have most carefully examined it, and I am sure it is a polypus. Did you not observe its pear-shape, its smooth and polished surface, its resistance? It is clearly a polypus uteri."

"Certainly I do not like to differ from you in opinion on the case. I may be mistaken myself; but I shall be greatly obliged if you will do me the favor to repeat your examination, carefully noting the diagnostic differences of polypus, and the case I supposed. I am far from presuming on my own judgment, but I must doubt you will come to my way of thinking as to this matter."

So he went to the patient's room, and soon came back, assuring me, most confidently, that I had been mistaken, and that the case was a case of polypus uteri, pointing out to me all the infallible signs of that diagnostic.

"Very well, doctor; it may be that I have made a strange mistake: but you know that a man's perceptions are his perceptions, and they are what he is to go by. I hope you will allow me, before the operation is performed, to correct myself by a new exploration."

"Oh, certainly, I wish that you should do so, for I am quite sure you will find it as I have said."

We went to the chamber; I passed the right index finger along the tumor into the canal of the cervix, which was considerably dilated by the ovum, and, having carried it as high up as I could, I bent the last joint, indented the mass with the finger-nail so as to make it serve as a crotchet, and then exhorting the woman urgently to bear down—to strain—hard! harder! the dead ovum slipped into my palm.

I called for a basin of water to put it in, and, taking it to the window, I showed him the dead compressed ovum, of the nature of which the chorion and amnion were the irrefragable evidences.

"What is it, doctor?"

"It is an ovum."

"I told you so."

"Yes, but it is very strange! Do you know that I have attended a thousand labors? How could I make such a mistake!"

Now, do you, my friends, ask why I make all this detail of so simple an affair? All medical practice is a simple affair: it only requires, first, that you should be well informed as to the nature of your duties: and, second, that you should reflect upon those duties in order to perceive what they be. The gentleman in question is a man of talents, very superior to hundreds or thousands of our brethren. But you see what a mistake! I make all this detail, in hopes of warning you not to frighten a whole household by discovering that the mother of it has a polypus uteri, when she has no such thing. In fact, I make it to prevent you from jumping at a conclusion. How jump at a conclusion, say you? Why! certainly my friend did so; and in this way. "The woman bleeds. She has a polypoid mass in the vagina, with certain uneasiness and pain; ergo, it is polypus, *ergo*, it must be extirpated." He ought to have reasoned differently. He should have said: "The woman bleeds; she has bled not many days; she has young children; she is a breeding woman; she has a polypoid mass in the cervix and vagina; but a polypus requires a long time for its development; *ergo*, though polypoid, this mass is not polypous; it is an ovum, compressed, and which is grasped by the cervix; I shall pick it away with my finger; and when it is done, I shall say, 'You are well, now, madam; the miscarriage is over, for I have the whole product of the pregnancy in my hand.'"

I have no further remarks to make upon the subject of concluding too suddenly an opinion on such a case. If you will perpend the circumstances I have just related, the facts, for they are facts, ought to serve to arouse your attention; but, if you will be really attentive to the business before you, how can you fail to make just and right conclusions?

Let me relate another case to you, which is that of a lady about six-and-twenty years of age, the mother of a child about two years old.

Having for some time complained of pain apparently situated in the womb, and of vaginal discharge, and aching of the loins, and, indeed, of the pelvis generally, with increasing general debility, she was prevailed on to submit to an examination by the Touch. The os tincæ was low down in the pelvis, and painfully sensitive; but I could not discover any marks of swelling of the vaginal cervix, nor of engorgement of the whole uterus.

By means of the speculum, I found that the os uteri as to the left half of its anterior lip was red, injected—the venules and arterioles being visibly enlarged. The color was that of the brightest and healthiest lip of a young person. The rest of the os tincæ was of the natural pale whitish hue.

I advised rest; recumbency during part of the day, and all night; a regulated diet; and, as for the local turgescence, I treated it with contacts of the nitrate of silver pencil. But I did not make any progress towards a cure. As soon as the effect of the caustic was done away, the redness was found to be more intense, and occupying a larger base. The substance of the inner aspect of the said lip, and as far up the canal of the cervix as I could trace it by sight, was red and swollen, and vascular. This vascularity augmented, and the mass became a small tumor, which began to hang outside of the os uteri, so that I could lift it, and move it about from side to side, and up and down, with the points of the speculum forceps; and, in short, it had converted itself by degrees into a cellulo-vascular polypus; very small, it is true, but a real polypus. I cut it down to the level of the surface from which it sprung, with acid nitrate of mercury; but it sprung again, and again I cauterized it; and so for several repetitions, until at last the tendency of the part to develop a polypus was abolished, and now I consider the patient as cured.

Have I not cured this patient of a nascent cellulo-vascular polypus of the os uteri? I believe that I have, and the case is on that account rare, and worthy of your attention. The little tumor always carried with it an epithelial covering, which was so tender that, on some occasions, it would give way and bleed, upon being touched very gently with a plumasseau of lint. Perhaps some of you may think it was a mere vivace that I cured; but I cannot but suppose that, had I left it alone, it would soon have become a bleeding polypus, like the small one that I mentioned in a former part of this letter, and which caused so long and exhausting a hemorrhage from the lady.

I am, &c. C. D. M.

LETTER XXII.

Gentlemen: I showed you, on several different occasions last winter, samples of uteri containing one or more hard nodular-looking tumors; and also specimens, in which the entire mass of the womb had, by disease, been converted into a tumor. You may remember that of the smaller tumors, some rose to a considerable height above the general level of the peritoneal surface; some of them being mere knots, and others having the appearance of being attached by necks or peduncles to the superficies of the organ, from whence, and through a faulty operation of whose development force, they had sprung.

You shall find cases in which a womb shall be covered all over with such botryoidal prominences. They are to be met with as large as a child's head, and of every intermediate size, down to that of a filbert or a pea. They are, doubtless, all of them polypes, and they differ from the other sort, of which we have been before speaking, only in this, that they grow in a direction towards the serous, instead of in a direction towards the mucous paries of the uterus, being essentially affections of the fibrous lamina of the womb, and not of the mucous lamina of it. The same principle is employed in causing the growth of either sort. There are some of them that appear to have pressed themselves, or rather to have been pressed down into the substance of the uterine walls, and sit, as it were, like an acorn in its cup, but attached at the bottom of the cup by a root, neck, or peduncle.

These tumors are not in themselves painful. They may give rise, however, to pain, by irritating the organ from which they grow, or others among which they intrude their masses, and yet they are not unfrequently met with in considerable numbers in or upon the uteri of subjects who, having perished with other maladies, had never any suspicion of being affected in this way. In the long run, they may be expected, however, to bring on constitutional disorders by disturbing the womb, which, you know, is eminently a disturbing organ, when it is itself disturbed. Upon attaining a certain size, they are likely also to introduce a bad state of health by their intrusion in the places of other organs and parts, whose circulation, absorption, nutrition, and innervation they directly oppress and contravene by mechanical displacement and pressure.

People talk of taking medicine for such tumors; and they even take homœopathic pellets in decillionths of grains! *Ma conscience!* Leaving out of question the unspeakable nonsense of the homœopathic dosings, I see not on what ground they should take even real physic for such complaints; since drugs cannot, and were never designed to heal such tumors, and make them return under obedience to the natural development laws of the organ, and restore its outline and contexture to a normal form and dimensions.

Don't you see that these are really chirurgical maladies?—that is to say, they would be subjects for chirurgical manipulation and operation, provided they could become accessible to the fingers, or bistoury, or ligature, &c.? True, Mr. Lisfranc has proposed to enucleate them, and possibly, when one of them happens to spring from the vaginal cervix, it might be turned out with the handle of a scalpel, or dug out with the finger nails. If you like such surgery, it may be well; but I confess I am not of that class of people. As to doing anything with those that grow outwards towards the peritoneum, I look upon it as hopeless. I detest all abdominal surgery, save that which is clearly warranted by the otherwise imminent death of the patient. I say imminent death, not inevitable death, for death is ordained for us all.

It does not, however, follow that, because you have come to the conclusion that nothing can be done in the way of curing a fibrous tumor of the womb looking towards its serous surface, you are to do nothing for the patient herself.

Much may be done in a way of wise counsel and prudent prescription as to her conservation; as to putting off the evil day; as to obviating and combating all the provocatives to an unnecessary increase of the malady; and as to counteracting the effects of pressure and intrusion, the natural accompaniments of the tumor. She may be confined, by your orders, to the house, the sofa, or the bed, whenever the disturbance arises to a height rendering such interventions of yours desirable.

If obstruction of the pelvis attend the complaint, the enema, the aperient, the strong purgative, are at hand under your direction. Her diet and clothing may be regulated wisely and usefully. If inflammation and pain be threatened, or actually make the attack, you will save the perilous organs by your venesection, your leechings, cuppings, counter-irritants, stupes, and cataplasms; by your tartar of antimony and potash, your calomel, and your opium. So that, though you cannot cure the fibrous tumor, you see I do not advise you to turn your back on the patient, leaving her to an inevitable fate, rendered tenfold intolerable by unwise treatment, or by no manner of treatment. For I deem those who are doomed to an inevitable and not distant death from incurable

disease, to have no less need of the physician than those who are certainly curable; and I think no higher exercise of the medical functions can ever be found than in those euthanasial benefactions that can smooth the way of the dying, and through composure, and comfortable counsels, and charitableness, and "sweet oblivious antidotes," divest of some portion of their terror and pain the last fast-fleeting hours of the children of men.

I fear I am, my friends, in danger of making a rambling sort of letter of this, as well as the last one; for I find myself disposed very strongly to come back again in this one to the contemplation of principles that I find I have but partially discussed in the former. I hope, however, that, as I am writing letters, and not a book, you will pardon me if I depart from the regular epopœia form of book-making, and preserve in this series of communications the liberty and latitude which would be unbecoming in a regular *gradus operis*. In fact, I am very desirous to lay before you a translation of part of Article XVII. of M. Serres's *Anatomie Transcendante*, which is at page 130 of that admirable work: and I do this, because I feel very sure that no one is likely to republish the work in this country, and that you will probably not have an opportunity to see the passages in question, unless I give them to you here. You will judge whether the citation be germain or not to the matter in hand, to wit, the abnormal developments to which the womb is liable.

Mr. S. says: "The structure as well as the form of organs is subject to various metamorphoses. An organ passes through various phases or gradations before it reaches the condition in which it is destined to remain throughout the rest of its existence. An aberration of its form produces monstrosity; an aberration of its structure produces disease. Both these aberrations are subject to certain rules, and very nearly to the same rules.

"In order to conceive just ideas of an aberration of form, we must follow the successive evolutions of such form from the moment of its first manifestation up to the period of its complete development.

"To conceive of aberrations of structure, we must adopt the same plan. But, inasmuch as a case of monstrosity is nothing more than the retrocession of an organ towards another and more simple condition of such organ, or its arrest at one of its embryonal and primitive conditions; in the same sense, an organic disease is often nothing else than a return of an organic tissue towards a textural condition, which it naturally possessed at some one period of its embryonal life.

"Diseases consisting in retrocession of tissues correspond to cases of monstrosity by default; and monstrosities from excess approach in

their nature those morbid conditions in which there is a new organic production. Now, as a monstrosity by excess is but the repetition of an already acquired organization, so, productive maladies can never give rise to any other than already existing tissues. They reproduce tissues, as monstrosity reproduces organs; and these tissues as well as these organs almost always have their analogues in the normal and regular organization.

"Thus, the reproduction consists in a cellular tissue—in a membrane, the basis of which is cellular tela, or albumen; or it is a cellular part, becoming a fibrous part; and the latter passing into the osseous, or cartilaginous state; or, the product consists in natural cartilages, in which ossific matter is deposited; in strange muscular fibres that exhibit themselves; in organs of secretion that are formed, either in the state of cysts or of crypts, whose analogues already exist in the economy; or there are bloodvessels rising up spontaneously in newly-formed tissues, and, in fine, the nervous system itself may come to add itself to these accidental products.

"Notwithstanding they are formed in the midst of disease, these productions are subject to certain laws. The first law is this; and it confirms one of the laws both of physics and chemistry, viz., that as a slow action is necessary for the operation of a regular crystallization, so a slow action is indispensable for the accomplishment of these formations. A rapid action would produce either the destruction of the organs, or a hemorrhage, or collections of sanguine, or serous matters, or even purulent deposits, in which no organic movement is discernible.

"The second law is a consequence of the former; and it is that the growth of these products is effected by means of juxtaposition. The membranous layers superimpose themselves, one above the other where the membrane is plane; if, on the other hand, it is bent or curved, so as to form a cyst, the addition is made upon the interior, in a concentric manner. The exterior in this manner becomes the internal membrane of the cyst, which is nothing more than the membrane rolled up. This difference in form, slight as it is, produces a very great difference in the result; for whereas the membrane can acquire nothing beyond an individual existence, limited, at most, to the mere production of the sanguiferous apparatus, the cyst frequently becomes a real organ, the interior of which deposits fluids of various nature and consistence. It may even constitute *a being*, self-existing, and become a first degree of animality. The third law relates to histogeny, properly so called.

"It was, no doubt, an error of the ancient anatomists to persevere, as they did, in the search after an elementary tissue or fibre, the origin of all other tissues or fibres. Yet, underneath this idea lay concealed

the profound and true notion that tissues apparently very different have, in fact, the very same origin; and consist but of the same element subjected by the powers of nature to diverse modifications.

"Thus, the cellular element, when disposed in areolæ, or in fibres, constitutes the system to which it gives name: in bundles, it is the fibrous system; rolled up so as to form a closed sac, it becomes the serous system, &c. These various systems are nothing but natural and normal transformations of one common element. But, if it be in nature to undergo these transformations, we may perceive how a cellular part in man may, like the posterior cervical ligament, become fibrous in certain animals; how a ligamentous part, such as the stylo-hyoid ligament, may be transformed into an osseous chain; how cellular parts may become serous membrane, while the serous membranes of the last order may become replaced by cellular tissue, &c.

"We may also conceive that diseases, by modifying this common element, as nature modifies it in a normal state, shall cause cellular to become fibrous, cartilaginous, osseous, and serous parts, &c. All these modifications of a common element may be converted one into another, while still circumscribed within their proper limits. The same will be the case as to the nervous and muscular elements, each of them forming systems analogous to themselves, although differing among themselves. In fine, the vascular or sanguiferous element intervenes in all these diverse systems, as a condition of all, in a somewhat advanced formation.

"These analogous systems transform themselves each into the other, without, nevertheless, overleaping their respective limits. The cellulur will never, under any circumstances, clothe itself with those characters that are proper to the nervous or the muscular element, nor will the nervous or the muscular elements ever exhibit the evident conditions of the cellular. However varied may be such accidental products, you will ever find them circumscribed by their true special nature.

"The very contrary of these statements is to be found in most of the treatises on pathological anatomy, wherein you are told that all the tissues, commencing as cellular, may again take upon themselves this transformation. In those treatises, you find accounts of cellular, fibrous, cartilaginous, and even osseous transformations of the nervous system and of the muscular system. The fact is true; its explanation is not true: the nervous system is never, in any phasis of its development, cellular. According to our views, therefore, it cannot, under any circumstances, manifest the transformations that are peculiar to the cellular element. But, incontestably, these metamorphoses are observed in it: then it must be because the cellular element intervenes. How should it intervene? Always by accident. A solution of continuity

suddenly separates portions of the nervous matter of the encephalon or spinal cord and nerves; a cicatrix repairs the injury. Such cicatrix, at first cellular, may become mucous, provided it fills with pus; it may become fibrous, cartilaginous, and even osseous; I have met with, and reported cases of each sort. But we see that, in these cases, which I have analyzed with the greatest care, the nervous element remains entirely a stranger to these transformations. It is the cellular tissue, which, supervening pathologically in the nerve-matter, becomes the basis and the seat of these metamorphoses. Here, as everywhere else, it undergoes the evolutions peculiar to it, and to itself only.

"The practical consequences of these principles are so easily deducible, that, for the present, I shall refrain from deducing them. I will, however, remark that these new-formed tissues never do attain the full degree of development of the normal tissues to which they approximate. Thus, the osseous transformation may produce laminæ, or granules, but never anything comparable to a bone. The cellular transformation of cicatrices is very far removed from the natural disposition of that tissue; a serous cyst can never produce a pericardium or a pleura; nor will the accidental mucous membranes ever rise to the height of that rich organization which we observe, for example, in the intestinal mucous membrane. Disease produces an abortion of tissue, just as monstrosity produces an abortion of organs."

There, gentlemen, I know not what you will say, or what you will think of such a long extract in this letter; but I know what you ought to think; and that is, that you ought to think yourselves much obliged to me for giving you an opportunity to read the above beautiful and philosophic exposition. I advise you, before you go any further, to turn back and read M. Serres's remarks over again. It will do you good to read them again, and it will do your patient good, for they are replete with the wholesomest doctrine, constantly applicable to clinical ministrations, and perhaps indispensable to a correct understanding of the diseased morphology of the uterus, which is the special subject of this letter. I did not intend to make so copious an excerpt from anybody, but I could not resist the temptation to present this one from that admirable philosopher. And I am sure there is not an ingenuous and intelligent young man among you who will not concur with me in thanking M. Serres for even this much of these profound thoughts of his.

Having now laid before you M. Serres's observations as above, let us proceed with the more direct object of this letter.

What was the real nature of that immense and very firm mass of polypus that I mentioned in the beginning of this communication? I

said it was fibrous, and I suppose that the fibrous matter, though not truly a mass of uterine matter, must have nevertheless been deposited under a development or accretion law identical with that which originally developed the fibrous matter of the womb itself, though modified in its operation by disease in this instance. Uterine polypus may be cellular or cellulo-vascular. In such cases, the vascular and cellular elements become the subjects of diseased deposit; in the former, the muscular or fibrous portions are chiefly the subjects of it.

But you saw specimens, last winter, in which the entire mass of the womb became altered, having grown to a vast size, and retaining in its augmentation very few of the characteristic features of its normal fabric. It, in fact, is become, under such circumstances, a heterologue organ, or, rather, is converted into a tumor.

Those cases wherein the whole womb is converted into a tumor are very different from the mere hypertrophic modifications of its volume and weight, and the tumor is different in different samples, according as one or as another of its normal elements has been the chief subject of the morphological transformation, and the departure may be greater or less in different specimens, some retaining, and others losing every trace of the original character.

In regard to all the possible forms into which the material elements of the womb may become converted under the wild heterologue operation of its development force, where it has abandoned its generical law, it seems to me nearly bootless to inquire.

Some of the writers on these strange appearances have endeavored to classify them, and reduce their arrangement to a scientific scale. For my part, it seems to me enough to know that the elements may, each of them, undergo changes by a morbid act of deposit, and I am not, therefore, surprised to find a hygroma, a hæmatoma, a lipoma, a cancer, &c., formed upon the basis of the uterine textures. If the morbid development deposits in the uterus a mass of cartilaginous structure, there is no reason for surprise when that cartilage passes into bone, since it is one of the functions of cartilage to do so. All such cartilage deposits are effected through the agency of cells, and Thomas Schwann has shown, in his *Comparison of the Development of Animals and Plants*, that, in each of those kingdoms, the cell-life force is the agent of nature in the work of evolving her living forms.

You will readily admit that this cell-force moves in a true generic line, partly in virtue of an original nature or bias with which it is endowed, and partly in virtue of certain chemical attractions that concur with it; for example, the cells of the chorda dorsalis of a tadpole are probably very different in their original life endowment from

the cells of the pollen tube of a cactus or a lily; yet, even if you presume them to be not different in the essential nature of their nucleated nucleoles, they are very different as to the circumstances in which they are placed; for the chorda dorsalis cells could not possibly be developed in such a cytoblastem as that which is provided for the pollen cells in the stigma or style of a vegetable, and *vice versâ*, for the pollen cells could find no proper elements in the albuminous fluid out of which the spinal marrow is evolved.

Now, as to the morbid tumors of which we have been speaking, the cell—the mother cell—finds a new cytoblastema in a morbid deposit; and it appropriates it to form a tissue, a morbid one, but still a tissue, which is heterologue; and to such a degree, that it will be difficult in many samples to ascertain which is the deviated element in the case.

If you examine the cells of a malignant tumor, you shall often find no appreciable difference between their appearance and those of the healthiest young growing part; as, for example, the cells of the chorda dorsalis, those of cartilage in very early embryos, or those discovered by compressing the pollen grains of a flower, or the plumule of a bean.

The caudate cells of some of the cancerous tumors, the acicular crystals, and the granules, laminæ, and masses of earthy phosphates and carbonates that we find in these masses, ought not to excite our surprise, though they may well overwhelm us with grief, if, like the good Sir Thomas Browne, whom I have already quoted, we be not only grieved, but thoroughly ashamed, that there is in the world, not only the greatest of evils, death, but that other great evil of diseases incurable, for, such as these are incurable.

I do not imagine, my young friends, you will make any very great progress in real knowledge by burdening your memories with all the varieties of nomenclatural distinctions that are in the books concerning tumors of the womb; there is already far too much classification.

Dr. Hooper's costly and beautiful volume, *The Morbid Anatomy of the Uterus and its Appendages*, is one of the clearest of them; but I think you will find in it too elaborate a systemization of these vagaries of the development forces, an attempt to classify what need not, and indeed cannot, be classified, *videlicet* the freaks of nature, acting without generic law, or end, or aim. It is far better to study M. Serres's beautiful doctrine, that I have quoted for you from his *Anatomie Transcendante*, in which is explained the true philosophy of such extraordinary operations.

You shall probably meet, in the course of your long experience, with cases where the womb, that weighs in its natural state only two ounces,

has become as large as a man's head, and weighs many pounds. The texture here is not uterine texture; it is a mixture of fibrous and cellular material, with greatly diminished proportions of vessel, nerve, and absorbent. It seems to me that the process of production for this abnormal uterine matter is one that has no natural term; it is limited only by the life of the patient, and there is no power to recall it. It is, therefore, useless to give drugs with that view. It is true, I have met with several examples of enlarged and heterologue uteri that have ceased at last to grow, and I can well imagine that, now and then, in the process of extension, there will be attained a final term of the development force. That is to say, the uterine and spermatic arteries that serve under the registering power of the accompanying nerves, may convey material sufficient to carry out the morbid formation to a certain extent, but cannot transcend that certain extent, because the caliber of the vessels will not admit of a sufficient quantity of blood to pass to effect any further accretions, or haply the accompanying nerves will lose, by their extension, their indicating or controlling vital power over the morbid organic acts of accretion.

Such an effect as I have just spoken of would doubtless follow the tying of both the uterine arteries, or, perhaps, even of one of them; and in any case where a uterus should be known to be about to convert itself into a solid tumor, it seems to me not an impracticable surgery to secure the uterine arteries, with a view to suppress any further development.

Suppose, in any such case, Robert Lee's ganglions of the cervix uteri could be carried off by a dextrous operation, would not the further development of the tumor certainly be arrested?

I repeat that I have seen some cases of morbid augmentation of the womb carried to such an extent as nearly to fill the whole of the excavation of the pelvis; so much so, indeed, as greatly to impede the functions of defecation and urination, and wherein the patients, after years of great suffering, have recovered their activity and good health.

In such samples, there has been, however, a loss of appetite, or a regulation of the diet amounting almost to the *diète absolue:* and there is reason to suppose that the cessation of development has arisen from the extreme reduction of the development force, partly by feeble health, and partly from the diminution of the sources of supply under a rigorous diet. I consider that when a woman conceives in the womb, that organ is compelled to grow or augment *pari passû* with the growing ovum. Such a womb at the beginning, weighs about two ounces; by the time the ovum is completely developed, which is about the 280th day, this womb has acquired a weight of a pound or some-

times of two pounds. It has undergone a process of hypertrophization, which might properly be called a physiological hypertrophization. But as its evolution requires 280 days, it must also require a certain time to recover its non-gravid volume and weight by its return or involution. It might well be said that the first act of involution is expressed by its first labor-pains or contraction. To recover from its physiological hypertrophy, it is only necessary to remove the cause, expel the ovum. But, as often happens, the processes of its involution become arrested when half done, or more, and the womb remains enlarged, heavy, and inconvenient to the patient's comfort and even her safety. If you diagnosticate the case, you will pronounce it to be a case of hypertrophy of the womb, and you would pronounce correctly. But if you should discover the cause of the arrest of its involutive act to be a retroversion, or some inflammation that might have attacked the neck of it, you could venture to promise a cure provided you could remedy the retroversion, or remove the inflammation. Put the womb in its true place and posture, or cure the inflamed neck, and then the involutive processes, no longer prevented or arrested, would soon bring the organ back to its non-gravid volume, weight, and power. No such good fortune could be expected in the treatment of a heterologue uterus; yet I saw a cancerous mamma, as hard as cartilage, ulcerated, and firmly adherent, that was totally removed by absorption, in a long paraplegia.

Many of these great tumors of the whole womb are accompanied with dreadful hemorrhages. After death, you find a uterine cavity longer than natural, but not much more spacious. The walls of the cavity, however, are many inches in thickness.

I attended, for a long time, a lady with a vast tumor of the whole uterus. She had enormous uterine hemorrhages. The uterus weighed many pounds; its cavity was not much larger than the normal size; in the right ovary, which was as large as the fist, was found a quantity of human hair. Probably, the fatal development of the womb was provoked by the irremissible irritation communicated by this ovary to the uterus.

In case the womb begins to develop itself as a uterine tumor, it will in the stages be sure to sink low down in the excavation of the pelvis; and, as it develops its magnitude more and more, it more and more interferes with the parts upon which it presses. If you touch such a mass, you scarcely shall fail to find it firmly packed, or jammed in the pelvis, putting you in mind of those cases of immobility of the womb that I spoke of in my XVth Letter. If you let the uterus go on increasing in size and weight while inhabiting the excavation, you will be sure to have much trouble from complaints of urinary and intestinal

tenesmus, that must inevitably accompany such pressure and intrusion. Reflect for a moment on the facts, and you will perceive that, though apparently immovable, the mass is not really so; and that it is only apparently so from the condensation of the tissue about the vagina, and from its weight. If you could get the tumor well raised upwards, so as to carry the mass of it above the superior strait, you would do the woman a great service, by relieving her of all the painful and annoying accidence of the malady. But, when you try with your hand to raise it, it will not go! Don't be disheartened; make it go. How?

Place a globe-pessary or a gum-elastic bag in the vagina, a small one; one of an inch and a half, or an inch and three-quarters; leave it *in sitû* for a week, more or less; then adjust one of two inches, and next one of two and a quarter inches. In this way, you may very confidently expect to raise the tumor out of its narrow bony chamber in the excavation, which is too small for its accommodation, and get it up into the free and large space of the abdomen, where its pressure is scarcely inconvenient. But think, gentlemen, if you take away, by this means, a constant and irritating tenesmus, you turn aside in that very act a strong and perpetual provocation of the sanguine and nervous systems to excessive activity, and thus diminish the tendency to rapid growth of the tumor. Nay, might it not be that the growth should find itself completely arrested in this way? I am convinced that the abolition of a constant and vexatious tenesmus would be far more efficacious in diminishing the tendency to morbid nutrition and development of the womb than half a dozen leechings, cuppings, or blisterings, to which you would resort as your chief therapeutical armamentaria medico-therapeutica. But in this I speak not as one theorizing only; I speak from what I regard as well-observed clinical experience of my own; for I have many times done that very thing, and succeeded most happily. Try it.

One is greatly tempted, under such circumstances, to prescribe; and, if we must prescribe, let us allow the woman to test the power of the deobstruents, as they are called. Such is the iodine.

I have no clear rationale to offer you as to the therapeutic action of iodine. Its probable efficacy, as combined in the spongia usta, in the cure of bronchocele, led it into a great vogue as a means of promoting the actions of the absorbent system; and there can be no reasonable doubt as to the disappearance of swellings of glands after its exhibition; of the disappearance of various cutaneous eruptions; and also of certain engorgements of organs. But, whether *tumors* are obedient to its power, is a question not yet settled; for a tumor is a new material, and not simply an old one, modified as to size, sensibility, and resistance.

Nevertheless, you would probably give the patient iodine. Let her take it for a long time. Let her take it in combination with some of the diet drinks; as Zitmann's decoct., or decoction of the woods, or simple infusion of sarsaparilla; or, what is the least inconvenient of all, the compound syrup of sarsaparilla. Let her have five drops of Lugol's solution of iodine, with half a fluidounce of syrup of sarsaparilla, twice or thrice a day. One good effect of such a drug may be counted upon; and that is an improvement in the state of the skin, which becomes warmer, more humid, and better colored under its use, and if so, then the internal determination is in so far lessened, which is a great point gained.

The use of the bath at 96° or 98° of Fahrenheit will conduce favorably to the same end. If repeated too frequently, it will be found exhausting. I advise you to order the bath about three times a week, and that the patient go from the bath to bed at night.

Seeing that the womb is subject to a monthly hemorrhage, in consequence of the periodical ovi-posit by the ovary, and that this mensual hemorrhage absolutely depends on a periodical hemorrhagic engorgement and nisus of the internal reproductive organs, it is a clear duty to regulate the patient so as to cause the monthly periods to pass by with the least possible injury to the womb.

If the woman whose womb is about converting itself into a tumor should be careless of her menstrua; if she allow them to be checked or prevented, and if the vessels and the nerves of the organ remain too long, or too considerably under the influence of the mensual nisus, the tumor will be surely aggravated by that protracted or too violent sanguine and nervous determination. Let her, therefore, be advised to stay at home; to keep her feet from cold pavements, or grass, or earth; to maintain a soluble state of bowels; to diminish her rations; to be calm and gentle in all her movements, and in all the affections of the mind, during the existence of the mensual crisis.

It will be advisable also to abstract from her constitution the too considerable irritation communicated by the tumor, acting upon and vexing that constitution day by day, and nightly, for weeks and for months. Small doses of opium in the form of Dover's powder at night, alternating them from time to time with enemata of black drop, or laudanum, will be the most powerful means within your control for such ends. But, as you will have a long case before you, you should be careful to avoid oppressing the nervous system by a profligate use of such narcotic remedies. The nervous system is more apt to be debauched than saved by the intemperate use of such drugs. Let your

doses, therefore, be the smallest possible ones consistent with the production of a moderate therapeutical result.

I cannot close this letter without again saying to you that women, in whom the whole mass of the womb becomes converted or metamorphosed, are very liable to uterine hemorrhages. The change in the constitution of the uterus does not of necessity implicate the healthful vitelliferous and germiparous operations of the ovaries; but the ovaries, and not the womb, contain the cause of the menstrua. Hence, the menstrual action goes on in some of the specimens with great regularity. It is to be noted, however, that the new condition of the uterus itself commonly renders it hemorrhagic, and the same causes and influences, therefore, which produce the healthful mensual elimination in the healthy uterus operate to cause an excessive discharge of the menses in some of these altered uteri. As to two females, in each of whom the womb was as large as a man's head, the monthly waste was very great.

To combat such wasting discharges, you have at your command the usual resources of local cold, of recumbent rest, of opium, of saccharum saturni, of alum, of krameria, kino, &c. &c. But I have seen all these fail, and yet the hemorrhage held in check by doses of a decoction of dewberry root and black currant root, taken in half-teacupfuls at a time, and repeated *pro re natâ*. I mention it here, as an article worthy of your attention, especially in the examples of hemorrhages in which you find yourselves baffled. The ultima ratio, the tampon, will, of course, ever supply your wants in the instances wherein it may be indicated.

Lastly, never despair; never give up the patient; never pronounce the case hopeless, even when it is to all appearance hopeless. Not that I advise you to deceive the sick, or their friends, which would be cruel and useless; but you should remember that men and women and children have recovered from even apparent death. In these cases of enlarged womb, you have the hope that the growth will cease, and you have the example that they do sometimes diminish again. It is time enough to pronounce that there is no more hope when the life has left the body. I have seen the life resumed, even when I had regarded the signs of death as complete.

I wish, my friends, I had more comfortable prospects to hold out for you than those which, as to tumors of the womb, are contained in this letter. Medicine is always making progress, however; and let it be your duty so to study, to observe, and to reflect upon these mighty disorders, as to enable you, in the next half century, to leave more consolatory counsels to your pupils than I can to mine.

C. D. M.

LETTER XXIII.

Gentlemen: There is a frightful malady to which women, the subjects of these letters, are very much exposed; I mean carcinoma or malignant degeneration of the womb.

I have little to say on this subject, and I might add, there is little to be done for those who are attacked with it; I mean little to be done under prospects of relieving the persons so attacked, or restoring their health.

It is enough to make a physician's heart sink within him to make the diagnostic of cancer uteri, for such a diagnostic is *ipso facto* a prognostic of death; and when the physician has made it, and is brought to the point of giving true expression to his opinion, he might be supposed to be as painfully situated as the judge on the bench, when he puts on his black cap before the final announcement of the judgment unto death.

It is probable that the double functions of the uterus, as a menstruating and a childbearing organ, render it more liable to the attack of this atrocious malady; and that its structure, also, which in the healthful state is solid, hard, and elastic, without excessive abundance of circulation or nerves, exposes it more constantly to the causes of carcinomatous change.

What is that condition, that carcinomatous vice, which results in ulcerative or open carcinoma of the womb? and how is it originally established and set up in the texture of the cervix? Do you say it is cancer—cell-life begun and carried on there *ab initio?* How is the cell-life begun?—what gives origin to it?—when does the cancer-cell development begin?—is cancer always an inoculation, and whence the inoculation?—can the healthy actions of the womb deposit mother cancer-cells in a healthy texture, and furnish them with the indispensable cytoblastem, without which they themselves would die? These are questions more easy to propound than to answer; because, physicians very rarely enjoying opportunities of inquiring into the rise and progress of these disorders, do not begin to observe them until they have reached a stage of development so advanced as to leave little ground to expect any advantage from treatment beyond the mere benefits arising from cleanli-

ness, and some suppression, perhaps, of the progress as well as of the pain and irritation. Such cases cannot be studied *ab initio*. A mere scirrhus of the cervix does not give pain, and the woman herself will not ask our aid or our opinion on a case of whose existence she is not aware. I say, then, we cannot study these carcinomas *ab initio*. They can be reasoned of, however.

I have never been able to bring myself to consent that these diseases are the results of anything but inflammation. I have always regarded the transformed materials of a carcinomatous cervix as transformed deposit, elaborated by inflammatory action. And, if you will keep in view the remarks of M. Serres as to the gentle and slow progress of those actions that result in morphological changes, you will not find it difficult to agree with me that a carcinoma is an inflammatory result; for the slowness of the process, of which M. Serres speaks, is an attribute of those chronical inflammatory movements which produce, not hemorrhage, not secretions, not pus, not sphacelus, but new textures. But a carcinoma is a new changed texture. It is an imperfect, an abortive texture. It is a texture whose combination of vessels, absorbents, and nerves is a perishing and non-generic one; one that, from the very nature of the proportions of these instruments and agents of life, cannot exist long in one tenor of life, but *must* change and decay from the very fault of their crasis or composition. In a healthy cervix, the accretion and waste are duly balanced, because the absorbent and the nerve are there to regulate them both; but when, in consequence of a slow a chronic inflammation of the cervix, the interstitial textures become filled with laminæ, or fibres, or bands, or granules of coagulating lymph, or fibrine of the blood, it is manifest that the vessels are to become collaped or compressed and closed by these deposits outside of them, as is clearly shown by Pujol in his admirable doctrine of inflammation; and that the absorbents are sealed or compressed so effectually, and the nerves so absolutely destroyed, that the quasi organization of the carcinomatous cervix has come to its end, its term, and no longer, in truth, exists as to the sum of the particles of the cervix; and then commences a process of absorptions, and sloughings, and suppurations, and hemorrhages, and macerations, and sanious putrid excretions, which proceed until the constitution of the victim being entirely exhausted or overthrown, she sinks into the grave, her only and her last best refuge.

In the progress of this half erosion or maceration, and half phagedenic ulceration of the parts, the mother-cell makes its beginning; and, once begun, the parts once inoculated with this new and wild, unconstrained, uncontrolled form of life, the destruction goes on with rapidity; nothing stays, nothing arrests it, and the sole resource of our art con-

sists in the exhibition of opium in some one of its forms, for the subduction of the distress.

The principal matter, however, is to make a correct diagnosis. There is danger of an incorrect one in this, that if you come to the clear conviction that the case is one of veritable carcinoma or cancer, you will be paralyzed by that conviction; and, like everybody else, will settle down in the conclusion that nothing is to be done beyond the administration of those palliatives which, though they cannot cure, yet can console and comfort the patient.

I have certainly met, in the course of thirty years, with several cases of diseased uterus, which I had the greatest reason to suppose cancerous, but which yielded to persevering treatment, and ended in the perfect recovery of health. For example, a few years since, I treated a case of what I then had the greatest reason to regard as cancer of the os and vaginal portions of the uterus, in a young woman, then pregnant about two and a half months. She recovered her health and gave birth to a healthy child at term; since which she has continued to enjoy the most consummate health. As I have a most distinct recollection of the physical characters of the case, I feel very sure that, were I now called upon to make the diagnosis of a precisely similar malady, I should be compelled to pronounce it a carcinoma uteri.

Far be from me the intention to proclaim that I have been more fortunate than my brethren, and that I have cured cancer of the womb. My desire is to say that I was mistaken in my diagnosis, and that I treated a curable and not an incurable malady. I am of the opinion that everybody holds on the subject of this terrible evil, viz., that it is one of the *opprobria medicorum*, and that it cannot be cured. No, not even by the excision of the part affected. I speak of the true cancer.

Dr. Muller, in his work on the *Nature and Structural Characteristics of Cancer*, &c., combats the opinion of Wenzel, that scirrhus and carcinoma are mere inflammatory induration followed by ulcerative action. Yet, notwithstanding my ready assent to the doctrine of cells, as the agents of vital development, I confess myself to be quite in favor of the doctrine of Wenzel, and of those who, while they deny not the destructive activity of the developing cells, which are so readily detected in various forms of ulcerated carcinoma, and of fungoid disorders, yet regard the antecedent of cancer as inflammation. Perhaps you, my friends, may be in favor of Prof. Muller's views, and I acknowledge his arguments are very powerful, and that his citations of examples and varieties in the forms of cancerous degenerations, add to the force of his reasoning. But I cannot bring myself to believe that cancer ever commences anywhere, as a punctum saliens of disease. There is always

an antecedent state of alteration of tissue; a state which lays the foundation for the wild evolution and multiplication of cells, out of and beyond the control of the accretion and waste laws of the part or organ.

When a part has once become changed by a certain sort of induration, the control of the generic nerves is abolished in it; and a cell deposited or inoculated into it, might live and multiply upon its morbid cytoblastema, so as to result at last in the strangest modifications of the texture; becoming carcinoma reticulare, alveolare, fasciculatum, melanodes, or medullare. These several forms of degeneration depend on the loss or retention of more or less of the nerve power of the part, by which one or another of the constituent elements of a fabric may be held in check, or allowed to run into riot and ruin, under the action of the disease.

But it is not my purpose, and I confess I have not sufficient information upon these points, to enter into a discussion of the microscopic characteristics of the various forms of cancer. I barely remark that I have little reliance upon the microscopy of cancer cells as a matter of clinical importance, because I do not believe in the existence of an infinite variety of them. There seems little profit in such discussions beyond that which enures to the enrichment of our possessions in histology. They will probably have but little influence in a utilitarian sense, since they add not to the power of the therapeutist, nor to the success of the surgeon. I cheerfully refer you, therefore, to Prof. Muller's beautiful work, hoping, however, that you will always endeavor to exercise an independent judgment on all matters of science; not without that due respect to the superior knowledge and opportunities of such men as John Muller, whose great learning and noble devotion to the enlargement of the boundaries of medical science have earned for him so distinguished a name. I shall refer you to Colombat for a fuller description of the phenomena of scirrhus and cancer of the womb; merely saying here that, when the os tincæ becomes covered with hard lumps, that feel like shot lodged under the epithelium; that give sharp pain when pressed with the finger; that deform the os uteri, by causing it to open unequally; or that cause unnatural discharges; you will have a right to suspect scirrhus. If it have gone so far as to bleed for a touch, and to give rise to sanious discharge, with a peculiar odor, not very different from that of carious ulcer, it is ulcerated cancer, and the patient will probably die soon.

You will find that many of the European surgeons have treated cancer of the cervix by cutting off the diseased part, and that they assert the patients have been sometimes cured by the operation. I think the remark made to me by an eminent Philadelphia surgeon, some time

since, is worthy of being repeated: "If the cervix was cut off," said he, "and the woman recovered, it affords the most incontestable proof that the operation was unnecessary." It is probable that the course of your future experience, in recovering certain forms of enlargement, induration, and ulceration of the cervix uteri, will bring you, in the end, to a similar conclusion. In fact, there have been so many cases of excision of the cervix, within thirty years past, with so little happy result, that the operation is understood to be nearly abandoned by the German and the French surgeons. T. S. Lee says: "I have seen but one case of this kind (excision of the cervix); the neck of the womb was entirely removed, leaving an open cavity in the womb. After the operation, the patient remained in the hospital some long time, until the ulcer caused by the operation had entirely healed; but, after her dismissal, she shortly had a return of the deep-seated pain in the pelvis, the dragging at the groins, inability to walk far, and many of the same symptoms of which she complained before the operation. M. Lisfranc states that the success of this operation is very great in his hands; but he can hardly be relied on. It is an operation not much practised by our own surgeons, on account of the liability of the disease to return. Caustic is our only resource when the granulations become too luxuriant; but I have never seen it do much permanent good. Opiates are constantly necessary to allay the deep-seated and other pain which disturbs the rest and breaks up the constitution. Conium and hyoscyamus are the best; they affect the head less, but frequently are not sufficiently powerful; then opium, in some form, must be had recourse to. The bowels are to be kept gently open; but diarrhœa is to be avoided."

What more? I am out of heart, and ashamed to name cancer of the womb; and yet, what is the miserable victim to do without the aid of the physician? You must aid her. You must wash away the foul and putrid collections that actually sometimes *gush* from the diseased surfaces.

If you treat such cases, you may add greatly to the comfort of the woman by the upward douche. You can suspend a glissoir, and conduct into it a pailful of water, at such temperature as you please to indicate; the lower end of the glissoir, if provided with a gum-elastic tube, may be carefully introduced into the parts while the patient reclines in a bath, or sits on a bench over a proper basin or bidet, so that the douche may be directed to the affected parts with the effect of lessening the accidental epiphenomenal inflammation, and carrying away all the detestable odor of the sanies. Or the patient may go daily into a sitz-bath, and cleanse herself of the odious exhalations of her malady.

What a comfort for a woman! The pillar syringe is a very convenient one for these uses.

Dr. Lee says that caustic is the only resource. Take a small phial containing acid nitrate of mercury, a camel-hair brush with a long handle, a speculum of ivory and a speculum forceps, a small sponge, some honey of roses containing wine of opium or black drop, or extract of conium, or extract of hyoscyamus mixed in it.

Let the patient lie across the bed, her head, not the shoulders, on one single pillow; her hips at the very edge; her feet on the upper bars of the backs of two chairs; her knees widely separated, covered with a sheet.

Introduce the cylindrical or conical speculum, not too far, wrap the edge of the sheet all round the tube, so as completely to conceal the person, leaving only the projecting portion of the tube to be seen. Press the speculum down slowly and gently until you disclose the diseased part. You will be sure almost to find some of it upon the vaginal walls: *Don't burst them, nor hurt them* by jamming your tube into them. When they come into sight, take your bit of round soft sponge, filled with Castile soap, dip it in tepid water, thrust it into the mouth of the speculum, and then, holding it in the forceps, carry it to the bottom of the speculum and wash the ulcer clean. A soft sponge, well filled with fine Castile soap, is as soft as the mucous membranes themselves, and may be freely but gently turned round and round over the granulations and shreds, without inducing hemorrhage or the least pain.

On the contrary, the patient is greatly comforted and consoled by the process, both physically and morally, for her pain is diminished and she feels herself to be less an object of aversion and disgust when the frightful fetor of her cancer is even temporarily taken away.

Having cleansed the surfaces and dried them with soft dossils of charpie or linen cambric, if the indication calls for it dip the camel-hair pencil in the acid nitrate, and, carefully conducting it to the granulating surfaces, touch them with the solution; whereupon they immediately assume a gray or ash color and the secretions are, for the while, suspended by the coagulation and cauterization of the orifices and surfaces of exhalations. When you have made the contact of the caustic, carry your sponge, filled with warm or tepid soapsuds, to the bottom of the speculum, in order to neutralize any excess of the acid that might flow off upon surfaces you do not wish to act upon; and then, having dried the sore again, dip a small bundle of charpie or soft linen cambric in the mixture of honey of roses, attaching a strong thread to the bundle; place it in contact with the ulcers, and keep it there with your forceps, until, by gently withdrawing the speculum, you observe that the collapse

of the vaginal walls will hold it *in sitû*. The patient may withdraw the pledget or plumasseau in the course of four, six, or ten hours, according to the heat of the apartment and the heat of her body. The thread serves to draw it away.

Dr. Lee tells you to use conium or hyoscyamus as your anodyne; but he also says they are not very reliable resources, and that you must come to the opiates at last. In the matter of opiates, you should reflect that, in addition to the debauching influences of opium on the nervous constitution, and on all the secretory acts, there is a directly pernicious impression on the primæ viæ. But you should save the digestive power as far as you can. Use the laudanum, therefore, as enema, and use it wisely. Teach the poor creature not to waste so great a blessing as that which God, in the midst of his chastisements, has vouchsafed to her. If, like a spendthrift, she uses her anodyne too much its power will soon be gone.

Let her, then, learn to quell, not to abolish, the pain, for it will begin again. She should be provided with a proper syringe, one that will hold two fluidounces, and no more, and the fistula plumbea should be of a good size and sufficient length. Let her add to two tablespoonfuls of clear starch twenty-five to forty-five drops of laudanum, or eighteen to thirty drops of black drop, or two to four teaspoonfuls of solution of morphia, to make the injection into the rectum—an injection that may be repeated once, or twice, or thrice in twenty-four hours. She should be clearly informed that the progress of her malady will surely require larger doses, and the larger the doses the worse the influence upon the digestive and nervous power. Teach her, then, not to be profuse in the expenditure of that treasure of comfort which she possesses in her opium.

Where you have under your care cases that are attended with wasting discharges of blood or sanies, from cancerous tumors of the cervix proper, that sometimes are tuberous in form and of a large size, I presume you will readily counteract the bursting tendency of the tumor, or its tendency as rapidly to pullulate like the granulations in what is commonly called proud-flesh, by using the acid nitrate. You may, perhaps, prefer the caustic potash. But the most efficacious and sudden of these powers is that you possess in the actual cautery. The greatest objection to it in this country is the terror and the talk it would excite. But it does not give pain nor cause sensation, and the death of the points touched by the hot iron is so complete and so deep below the surface that it is more efficacious than any potential cautery, and leaves a better base after the fall of the slough.

It is very easily applied through an ivory or horn speculum. You

ought not to employ a silver or metallic speculum for this operation, because, in using the actual cautery, you must have the iron intensely hot; if it be merely cherry-red, it will adhere to the surfaces that you touch with it, and you will tear them in removing it. Your *bouton* should be white-hot; when, indeed, it burns before the actual contact, and does not adhere to, but rather repels the surfaces. Now, if you pass a white-hot cautery down the whole length of a metallic tube, you will heat the tube, and burn the whole vagina, whereas, if you pass it down an ivory or horn cylinder, which is a non-conductor, you will give her no pain at all.

Many of you living in remote country places will, perhaps, not find it convenient to procure the beautifully turned ivory speculum; but there is everywhere to be got a cow's horn. Cut one to the length of six inches; drill or reame out the interior to the diameter of one and three-quarter inches at top by one and a half inches at the lower end; shave it thin and polish it, and you will have as good a speculum as if Charrière himself had made it. You would do well to have several, of different sizes, for, in some of the carcinomata of the uterus and vagina, you will want a very small cylinder, inasmuch as a full-sized one would give pain and even endanger the laceration of the vagina.

M. Jobert de Lamballe, one of the surgeons of St. Louis, at Paris, is very famous, in Europe, for the common use he makes of the actual cautery in the treatment of diseases of the os tincæ. It is, in fact, for him a great specialty. M. Jobert, in a publication, has supposed the cervix to be nearly destitute of nervous sensibility. He treats a great variety of disorders of the cervix by this means, and asserts that many of his patients are completely cured by it.

I have seen him apply the cautery to many women who came, in succession, to place themselves on the bed arranged in his lecture room. The iron was always brought to him by an aid, as soon as the speculum was properly adjusted. The hiss of the burn was distinctly audible, but the women were never sensible of the contact, as I was assured both by carefully observing their expression of countenance, and by their own avowal; for they assured me they felt nothing, though, in the course of a little time afterwards, there were heat and pain, which soon passed away. M. Joubert himself is very confident of the vast benefit of this process; but the English, on the opposite side of the Channel, detest his process, and condemn it. There is no objection, however, to your making use of it for the suppression of otherwise irrepressible fungoid growths, or perverse hemorrhagic discharges; but remember well, that when you do use it, the contact must be barely a contact, and always an instantaneous one.

So much I have said as to cancer. I sincerely wish it were in my power to say more or better; but I can find no encouragement in my own melancholy experience, nor in the writings of Récamier or Lisfranc, or Dugès and Boivin.

But, for the cases that simulate it, that present the hardened and patulous os uteri, with granulations that bleed for a touch, and that sit on a hard and swollen base; if the patient be not already reduced in strength and flesh, bleed her from the arm, purge her every alternate day with compound powder of jalap and cream of tartar, until she has taken four, six, or eight doses. Touch the granulations with the nitrate pencil every few days; keep the woman in bed; direct the frequent use of the bidet; let her have a tepid bath three or four times a week; give her a diet, in which she shall have some meat every alternate day at dinner, and only then. Dissolve a grain of corros. chloride of mercury in a pint of compound syrup of sarsaparilla, and direct a tablespoonful for a dose, twice a day; to commence after the close of the course of purgatives. An anodyne enema at night will not only procure sleep, but procure that sort of hebetude as to constitutional impression that is highly curative under these circumstances.

Such a diet as I have advised above I have for many years been in the habit of recommending in long cases; and I have preferred it to a continued abstinence from animal food, because the digestion is less apt to give way under it than in a diet of *lavage* or mere vegetable matters; and, moreover, the patient submits with greater cheerfulness to a restriction that is not absolute. In such a course of diet, the patient, in thirty days, will have taken only vegetable matters on fifteen of those days, or thirty days in sixty, which, for many cases, will be found a sufficient degree of abstinence.

Certainly, I have cured some very unpromising forms of diseased os and cervix uteri by such a course. As to the cases of cancer of the cervix, in pregnant women, it is unnecessary to say, perhaps, that nothing in practice can be more dreadful. In such cases, those portions of the cervix that have become heterologue in histological character can afford probably none, or, if any, only a small proportion of the dilatable materials for the transmission of the fœtus. I saw a lady in labor in March, 1848, who was twenty days short of term. She was seized with the early symptoms of labor with too free a discharge of blood, and, upon examination, a tumor connected with the posterior and left segment of the circle of the os uteri was discovered. In this case, two-fifths of the os were undilatable, leaving three-fifths to afford the whole dilatable tissue. I expected a fatal laceration, but was agreeably disappointed. The child was born, but not until the carcinomatous lip

was detached and expelled by the pain. It is in my collection. And now I shall desist from further remarks on this painful subject, referring you to the publication already mentioned, where you may find greater details, but little more encouragement; and I rest, very truly, &c.

C. D. M.

LETTER XXIV.

Gentlemen: If you will look into the books, or listen to the relations of your patients, you will, perhaps, be led to believe that the womb is occasionally to be found distended with air, which, after having caused it to expand until it attains the size of a womb six months gone with child, more or less suddenly escapes; whereupon the signs of the woman's pregnancy disappear, to the great astonishment of the hopeful patient, as was the case in the celebrated instance of Mrs. Commodore Trunnion, of whose baby the author said, "*tenues in auras evadit.*" These ventose pregnancies are nonsense, and no thoroughly-bred and close-thinking physician ought to be for a moment misled by such a story. It is against physiology; it is against pathology; and it flies in the face of common sense, to talk of collections of wind distending a material like the womb, a material which creaks under the edge of the bistoury, and expanding it like a normal ovum, whose gentle slowness of growth is the sole reason for the deployment of the gravid uterus.

Air is too subtle to remain quietly locked up in an elastic bottle that has no cork in it; Don Cleofas was obliged to help Asmodeus out of the phial into which he had been conjured by the magician; and you all know very well, there is no womb into whose cavity you could not thrust a large quill, or male catheter; how, then, is air to remain in the womb, and blow it up like a Freshman's football, not only against the resistance of the womb itself, but against all the succussions of the abdominal muscles and diaphragm, and the resistance of the skin of the trunk of the body to boot! It is an idle conceit.

What! is there no such thing, then, as physometra and tympanites uteri; or a discharge of wind from the womb? Has it never been heard? Yes, I have heard it many times, both in childbed women and in others. Yet I repeat that inflation and distension of the womb with gas, the ventose pregnancy, the *pet vaginal*, are not diseases, but pure accidents. Madame Boivin and M. Dugès, at page 134, say: "We have

never known the existence of an aeriform body in the uterus, except in obstetric cases, as in retention of the membranes, or of portions of the dead fœtus, or of putrid coagula, causing gaseous exhalations, found in the uterus after death, or escaping per vaginam during life."

Let me explain this matter to you; for I cannot patiently endure to think that a pupil of mine, be he settled in Maine or Wisconsin, at the Sault St. Marie or Monterey, should admit to a patient that the womb can become filled and distended with gas, as a result of diseased secretion; for such secretion is impossible, and to admit it ridiculous.

Dr. F. Ludwig Meissner, in his great work on Diseases of Women, *Die Fraüenzimmerkrankheiten*, treats, at page 97, vol. ii., of Physometra, and he says expressly: "So Komme auch nur dann eine *Pneumatosis uteri* zu stande, wenn durch verschleissung des Muttermundes der abgang der in der gebärmutterhöle sich ansammelnden gase gehindert werde."

Dr. Meissner devotes many pages to show that flatus uteri may be produced by gaseous secretion, and that a variety of causes, such as remnants of ova, coagula, &c., are the causes of it. I cannot, however, bring myself to his way of thinking upon these points, and prefer to rely upon the clinical experience, and the reasonings that are personal, than upon the reports of others whose facts I receive, while I adhere to my own explanation of those facts.

I have often noticed the discharge of large quantities of gas from the genitalia of sick women. A woman when seized with her last labor-pain, and, bearing down with great violence, shall thrust, not the child only, but the placenta also, forth upon the bed; and, in bearing down with the violent force of the labor-tenesmus, she will push the very womb itself to the bottom of the pelvis, shortening the vagina in so doing, wrinkling and crushing it down to the os magnum. As soon as the tenesmus is over, the resiliency or elasticity of the tissues recovering its power, the womb rises again to a certain height within the excavation of the pelvis; but, as it is a cul-de-sac that rises, it is natural for air to follow it, and the vagina, and the womb itself, may thus contain air that has been drawn up within them, upon the same principle as that which makes it follow the upward movement of a piston in a cylinder. Then comes a new pain—an after-pain; or else I apply my hand to the hypogastrium to make sure of a good contraction of the womb; if I compress the womb with my hand, and particularly if I push it downwards in the pelvis, I am very apt to cause a quantity of air to rush out at the ostium vaginæ, with considerable noise. This I have heard a great many times. So, in making the examination per vaginam, when

the uterus is very low down, or when, in making use of the speculum, I push the os tincæ far away from the os magnum, air enters the passage, and follows the retreating womb. If it be left there and the woman is seized with a fit of coughing, or if she moves quickly, or changes her position, the air is pressed out with the sound of the *pet vaginal.* And there is no other way to account for it that is reasonable. So, also, if a woman has a heavy womb with a large loose vagina, when she lies on the couch or bed, the uterus retreats, as La Motte says, drawing air after it but if she rises, or coughs, or turns, the air is expelled. These occurrences give you no colorable ground to suppose that she secretes air from her genital mucous membrane; did you ever hear of air being secreted by the bladder of urine? Never. Air is not secreted. The bubbles of it that you see upon the skin are not bubbles of secreted air; they arise from the vaporization, or from the transformation of fluid products on the skin.

I am aware that it is said that the quality of the air contained in the swimming bladder varies in a ratio of the depth from which the fish is taken, and that some fishes have large openings by which the swim communicates with the throat. But though Delaroche and Needham contend for the idea that the gases are secreted, I cannot partake of their opinion, and must hold to the opposite sentiment. Those who desire, however, to have authority for the contrary opinion, may find a good statement of them by Hippolyte Cloquet, in the *Dict. des Sci. Nat.*, under the head "Vessie." A fish does not secrete the air of his swimming bladder. He comes to the surface for it.

If a woman sends for you, with a distended abdomen, with suppression of her catamenia, and other signs of pregnancy, and complaining also of the *pet vaginal*, I pray you be not so thoughtless as to tell her that her womb secretes air, for it does not.

Auscult the patient, and percuss the abdomen, and explore it by means of palpation, and, if she be not pregnant, you may say she has a tympany, or ascites, &c.; but do not say she has a flatulent womb. I would as lief hear you had told her she has a flatulent right ventricle of the heart or ventricle of the brain.

If, as Madame Bovin says, there be a putrid placenta corrupting and rotting within a lately delivered womb, or lying in the vagina like a huge putrescent tampon, you would not be surprised, upon taking it away, to find it followed by a gush of foul air, which, it is said, has even been found to be inflammable. In extracting the putrid placenta, I have not only had to submit to the horrible offence of this putrid blast from the womb, but I have found the decaying mass of the after-

birth crepitating under my hand like a piece of putrid emphysematous lung.

But in these cases the passage has been closed by the decaying mass; and you might suppose that a very firm clot, or a quantity of chorion and amnion, left in the womb after labor, might in like manner so shut up and close the orifice as to detain within the globe the putrid or other gases formed or extricated within.

It might possibly happen that an ulceration of the canal of the cervix, with luxuriant granulations, should shut up the mouth of the womb; and that some of the fluids detained above the obturation might extricate gases: but that they could expand the uterus so as to make it as large as the womb at five months, is what I cannot conceive of; and if I should, like Frank, meet with such a case, I would not believe it. I would much rather believe I had made a mistake in my diagnostic.

A woman might well have an escape of air from the os uteri, who had had a utero-rectal fistula, a thing quite possible after adhesion of the utero-rectal peritoneal cul-de-sac.

Well, then, as I do not believe in the physometra as a disease, but only as an obstetric accident, I have nothing more to say about it, except that, when your patient complains of it to you, and is disquieted and alarmed about it, I hope you will make her understand that she is not the subject of any sickness, but only of an accident.

Although I have nothing more to say about physometra, I have something to observe about those supposed pregnancies that consist merely of wind—wind in the bowels.

Certain nervous women, of childbearing age, and certain women about the change of life, are liable to suppose themselves pregnant because the abdomen has become enlarged and the catamenia have not returned; and there are many women who have excessive meteorism of the belly which lasts for months together, and which you can cure only by curing some chronic disorder of the womb: I say this, because I do know that most of these tympanies are produced by the disturbance in the abdominal tissues, provoked by some womb complaint.

A young lady of my acquaintance was married, and went to another city to reside with her husband; there she became pregnant, as she supposed, and when about seven months gone, came to see her family. Her physician, who had seen her in her new residence, had pronounced her pregnant because she grew and did not menstruate, and all the charming prospects and tender sentimentalities connected with these new scenes for the newly married, were hers.

Soon after her arrival here, I was hastily called on account of a threatened premature labor, as she had a considerable show. Upon

reaching the apartment, the scene of much anxiety, and after making inquiries as to the stage of the gestation, the amount of the hemorrhage, &c., I placed my hand upon the abdomen to discover whether the womb was condensed, and found the belly so uniformly distended up to the scrobicle, and so soft and so free from any hard uterine outline or delimitation, that I pushed the bunch of my fingers gently down to the plane of the superior strait, and could almost carry them to the promontorium without encountering any obstruction from womb or child. Next I obtained permission to examine by the Touch, and discovered the uterus to be certainly non-gravid. What did I do next?—or what do you think I ought to have done? My patient was already sufficiently agitated and nervous with all these palpations and explorations. If I had at once communicated to her the result of my researches, I should have had a scene. I reassured her—I told her there was no danger; and then, in another apartment, I communicated to her mother the disappointing intelligence, warning her to break it gently to the young lady, which was judiciously effected.

My patient, after having some treatment adapted to the morbid innervations of her alimentary canal, recovered, and returned to her home. The symptoms, after a few months, returned, and at six or seven months of the gestation, the same medical man, who declared on this occasion that she was not pregnant, resolved to bring her doubts to a final term; whereupon he gave her a strong dose of physic, which brought away a young dead fœtus. The same patient afterwards crossed the Atlantic, and became pregnant in Europe. Her medical men permitted her to embark for the United States at an advanced period of gestation, and she reached her native place in safety. When she came here, I discovered it to be another attack of tympany. After this, her health being better, she again conceived, and had an abortion of about two months' gestation. Since that event she has not again conceived.

Now these were not examples of physometra, but of tympanitis.

A lady twenty miles from town was pregnant—her physician agreed that she was. Her monthly nurse was engaged here, and, near the term, was conveyed to the country residence to be in readiness for the accouchement. The accouchement came not: the nurse remained six weeks in waiting. The physician at length wrote me a letter, giving an account of the case, and sent the lady to town. I percussed the abdomen with flatulent resonance on the whole superficies of the belly, which was a uniform tympanitic tumor, and not a uterine tumor. "You are not pregnant," said I; "you are resonant upon the whole abdomen, down to the very hypogastrium, and there is no click of the fœtal heart. The motions you have felt and the distension you have suffered

were motions of borborygmi and the inflation by gases in the intestines. Take these doses of physic: buy a yard of fine flannel; tear it into strips, four inches wide, to make a swathing bandage; wrap the long bandage round the abdomen, round and round, as tight as you can bear it without inconvenience, and reapply it daily. Compress the bowels, and they will not yield to the lateral distending pressure of the gases developed within their tubes: your abdomen will become as small as ever." And so it was. She took her physic; she wore her bandage; she recovered her digestive health, and her physometra or wind pregnancy disappeared. She afterwards became really pregnant, and I delivered her here.

I had a lady about forty-eight years of age under my care. She was anxious to have a child: had been long married, but there was no blessing. At length, I was apprised of the approaching good fortune. I percussed the abdomen, and I detected the denying resonance everywhere. I auscultcd in vain: there was no click of the heart, and I announced my diagnostic. My flannel roller on the abdomen, some aperients and tonics, cured the physometra. How many cases of this gestatio-ventosa have I seen! I have assuredly never, no, not in a single instance, announced or admitted a pregnancy in such circumstances; nor will I ever do so; because I will never say to any woman, "You are pregnant," until I know it.

The faults in these cases of chronic tympany—I mean those samples of it that are unattended with any severe or violent and dangerous local disorders, such as ulcers of the bowels, &c.—are readily curable with a roller of flannel, about four inches wide and three or four yards long, which should be turned round and round the belly, covering the half of the last turn with the succeeding one, and securing them all neatly with strong pins or a needle and thread. Other examples, and they are very numerous, depend upon disorders of the uterine health, such as chronic inflammation of the cervix, &c.

Nobody could have chronically inflated bowels but from debility or insensibility of the circular muscles of the alimentary tube. Now, that debility or want of action may arise from a faulty innervation, begotten in general debility, sedentariness, certain affections of the mind, and in many examples, symptomatically or sympathetically, by reproductive disorders. A woman, for example, ought to menstruate regularly; she stops menstruating—nobody can tell why—she has not very visibly lost her embonpoint, nor has she taken cold, or met with any moral or constitutional shock, and yet she does not *see;* who can tell whether she produces germs or not? It is very possible that her ovi-posit goes on as regularly and perfectly as ever it did, but that the consentaneous

irritation and excitement, instead of being propagated to the womb, are propagated by the various plexus-connections to the splanchnic system of the belly, and betray themselves in these false or wind pregnancies. I do not know that it is so; but if any one should suddenly die, or be killed while so affected, and a recent cicatricula or corpus luteum should be detected in the ovary, I would hold it a strong evidence of the above rationale, and of course I would say that the tympanitis had been an hysterical manifestation.

Tympanitis is often an hysterical manifestation.

I was called into a jail, in the State of Georgia, thirty-two or thirty-three years ago, to see a young girl who was seized there with an alarming attack of hysterical convulsions. I well remember to have been sitting by her bedside as her convulsions went off, and seeing her abdomen rise and rise and rise to such a vast size of distension, and that visibly, as to its progress, that not I only, but all the persons about her, feared the belly would burst like a shell. I have never seen such an example since. It required but a few minutes for the abdomen of the girl to become as large as that of a woman at term.

Now, pray take notice that these distensions could never exist were they not permitted to occur by the yielding of the circular peristaltic muscles: wherever these peristaltic muscles do their physiological duty, they do it by compressing the contents of the bowels, whether solid, fluid, or gaseous, while those contents are compelled to move along the intestinal tractus, in the direction of or in a line with the peristaltic motion. If you discover, therefore, that your patient has lost this power of compressing the intestinal contents, you will reason about it, and you will say: "I can re-excite this lost power. How? By giving the patient a purgative or an aperient, or eccoprotic dose, for that is the meaning and intent of such a dose. I shall give some rhubarb, senna, or purgative drug, and I will cause all this gas to be expelled."

It is very well for you to reason in this way, but you will be disappointed upon the trial, for your purgative will purge the patient, and the bowel will discharge all its stercoraceous contents, and much liquid and mucous matter, but the gas will stay in, and the belly be as big after as before the operation. You cannot get along, however, without your purgative, or aperients; and when you choose them, pray take my advice, and use one of Dr. Brown's formulas. I have used it for many years, and if it was not unprofessional to do so, I would imitate the epigraph I have seen in many old ladies' family recipe-books, and write over it *probatum est.*

Dr. Brown was a famous physician who lived at Port Tobacco, in Maryland, many years ago. He was one of three brothers, all of

whom obtained considerable eminence in Medicine, in their own districts and States. He was the Dr. Brown who was called in consultation with Dr. Dick and Dr. Craik at the last illness of Washington. My master, Dr. Thomas Hanson Marshall Fendal, of Georgia, was his pupil, and he told me, thirty-eight years ago, that this was one of Brown's formulas. Dr. F. used it in almost all severe cases of tympanitic disorder, and I have used it ever since, in similar cases, and ever shall.

Take one ounce of manna;
One drachm of anise seed;
Eight ounces of boiling water.

Mix them, and let the mixture rest for half an hour, then strain the liquor.

To the strained liquor add three drachms or four drachms of carbonate of magnesia, so as to make a perfect mixture.

A wineglassful may be given for the dose, to be repeated every two hours, or three hours, until it operates. This is Dr. Brown's carminative cathartic: and if a man may venture to speak on an experience of thirty-eight years, I am willing to say that I have all that time found it the most dependable carminative physic that I know of; and I heartily recommend Dr. Brown's formula to you.

I do not pretend to know why it is the most efficacious dose in tympanitis; nobody knows why one medicine acts thus, and another so; it is enough to know that ipecac. makes you vomit, and that jalap purges you. The why is a metaphysical, if not a psychological question.

If, in the treatment of these wind pregnancies, or tympanies, you can get the bowels once to discharge the flatus which seems to keep up, in some instances, for weeks and months, one even tenor of tension, you will gain an important point. If you can do this, then pray tighten the flannel roller, and keep all the advantage you have gained, by aiding the weakened intestinal muscles more effectually to compress the intestinal contents. Keep up the activity of the muscles of the bowels by means of an aloetic, such as Lady Webster's pill, or by draughts of infusion of rhubarb, quickened with some compound tinct. of rhubarb or senna. Take of sweet tincture of rhubarb and tinct. of gentian, of each one ounce. Mix and direct two teaspoonfuls for the dose, twice a day. This would be a very good medicine for such a case.

Let her drink brandy and water with her dinner, and a hot glass of punch at bedtime; have a good index expurgatorius of eatables, in which you should carefully set down sour-krout, pork, veal, duck, goose, beans, beets, corn, and *id genus omne* of the wind-begetting vegetables,

that are fitter for the *dura messorum ilia* than for the tender intestinal constitution of hysterical ladies.

Some of the doctors will tell you, for they still do insist on it with me, that these wind-swellings, these tympanites are produced by collections of gas *secreted* in the peritoneal sac.

I should be astonished at any one of you, could I hear him say he had a case of tympanitis of the pericardium, arising from secretion of gas by that serous sac. I should be not less astonished to hear any one of you attribute an ordinary tympany of the belly to such a cause. The air in tympany is always in the bowel; never outside of it. Farewell. C. D. M.

LETTER XXV.

Gentlemen: The womb is sometimes distended with water, which, after having enlarged it to a certain size, suddenly gushes forth, leaving the organ to return to its non-gravid size. This state is called hydrometra, or dropsy of the womb.

Now, as to hydrometra, I do not believe in it. It is indifferent to me who has seen it, or who has heard of it. I repeat, I do not believe in such a malady, and therefore I was inclined to pass over it in silence. The womb is a cul-de-sac, which can hold no water, except when the mouth of the cul-de-sac is turned upwards, in which I admit it would be possible for it to hold a little water; but, when the mouth of the cul-de-sac is turned downwards, the water would run out of it, as surely as it would fall out of a teacup or tumbler that you should turn upside down.

Still, they say the womb fills with water, and becomes as large as the gravid womb at seven months. There is no doubt of it; I have seen it; but that does not make a dropsy of the womb; it is only a case of the womb expanded by a body growing or enlarging within its cavity.

It is said that one acephalocyst, or a half million of acephalocysts, might develop themselves in the womb. These hypothetical acephalocysts, or bladder-worms, fill with water by some process of absorption, or endosmosis, and, as they expand, the womb, which does not know it is not pregnant, yields to the delusion, and gives way to the internal pressure, just as it does under the pressure of a growing healthy ovum. The acephalocysts fill more and more, until, at last, the womb will no

longer tolerate the incumbrance, and, beginning to contract, soon expels the intruding masses by a regular process of labor-pains.

When the mass is expelled, it is found sometimes to be in quantity sufficient to fill a wash-hand basin, and you call it a mass of hydatids. These hydatids look like bunches of grapes; like the finest Malaga grapes; and they are of various sizes, from an inch in diameter to the diameter of a small pin's head. Each one is attached to a mass of partially organized matter, consisting mainly in laminar cellular tela, with bloodvessels creeping among the grapes.

I have seen them come off with very great hemorrhage, even to fainting.

I said they are called acephalocysts. I ask you whether that is likely; and whether each one of the grapes of a bunch of hydatids is to be esteemed an independent ens?

I have never heard of hydatids in the virgin, nor do I believe that a virgin could have a hydatid or anything like it developed in her womb. I have met with them only in married women. I do not regard them as hydatids, or acephalocysts; but I think they are morbid products of conception.

A woman shall conceive healthfully, and carry on the gestation for a few weeks, when the embryo dying, she ought to throw off the ovum by an act of abortion; but she does not do so. The ovum, having formed its mesenteric attachment, keeps up a sort of life within its textures, and the floating extremities of the villi of the chorion imbibe, by means of the endosmosis, the transparent fluid which you see in the bunches of hydatids. They are not animals; they are dilated and hypertrophied villi of the chorion. A bunch of hydatids is a *dropsical placenta*, and a dropsical placenta is the dropsy of the womb, or hydrometra, of which you have heard. To have a true dropsy of the womb, you must imagine the os uteri hermetically sealed, and the cavity of the organ filled, and distended with serum. That would be a dropsy.

It is said that a single acephalocyst, or living hydatid animal, has filled the womb to a great size, and then, suddenly bursting, discharged its whole fluid contents at a gush. I have never seen such a case, but have many times seen a pool of water on the floor, from supposed rupture of the ovum, where I know the ovum was not ruptured. Such pools of water were hysterical discharges of urine. And, as I cannot conceive of a cysticercus or an acephalocyst, large as a child's head, I prefer to suppose that the doctor and the patient have both been deceived, rather than that so improbable a magnitude should ever be attained by an animalcule.

In true pregnancy, the womb is occupied by the ovum, whose growth

causes the womb to grow *pari passû*. The ovum in pregnancy, consists of the embryo or fœtus, the cord, the placenta, the amnion, and the chorion. The ovum is a living, independent, self-supported creature. It may well be likened to an acephalocyst, whose head might be stated to be the placenta, which, attaching itself to the uterine walls, sucks or draws from thence the materials for the development of itself, and its dependencies. Its dependencies, I say; and by that word, I mean to imply the child, and all its parts. The child may be regarded as one of the complex organs of the acephalocyst, which perishes at the end of a prescribed term, leaving the organ it has developed, a complete and self-existent creature, as it had itself been before it. This is the only true single acephalocyst that I can conceive of, as filling and distending the womb to a great size. And this acephalocyst may become morbid, that is to say, it may become enormously overgrown, so as to distend the womb beyond measure, and greatly interfere with the woman's health by the distension and intrusion. The womb itself may be injured, or weakened, by the extension; and the constitution may suffer from pressure of an overcharged womb on the vessels and nerves, and other organs in the belly. In pregnancy, the physiological evolution or hypertrophization of the womb proceeds at a rate which is fixed or normal; two hundred and eighty days being demanded for the normal evolution of the womb and its contained ovum. The powers of the organ are equal to this demand, but not equal to a demand for a redoubled rate. To make it grow faster than it can healthfully grow is to make it sick or diseased. An ovulum conceived within a Fallopian tube has a law of growth which ordains its completion in two hundred and eighty days; but the Fallopian tube has no such law, and it cannot fulfil the command, but must give way about the one hundredth or one hundred and tenth day, when the woman will lose her life. Now if a quantity of hydatids are in the womb they may grow twice as fast as the womb ought to grow, and so it will become irritated, diseased, or opened for the discharge of its contents. I have seen women nearly killed in this way, and I lost one patient from the too rapid growth of the ovum in a true pregnancy, because the excess of waters constituted a dropsy of the womb.

A womb, in this sense, might be said to be dropsical; but I think it would be truer to say the ovum is become dropsical.

In general, there is no therapeutical remedy for this dropsical state of the womb, of which I now speak. Not that you could not readily bring it to an end; for nothing could be easier than to do so, by pushing a catheter through the os uteri, and through the chorion and amnion, to let off the water. The escape of the water would end the dropsy; but I hope you will not think of resorting to such a treatment for any

degree of inconvenience that might arise from the over-distension, short of one manifestly involving the woman in danger. You have no right to bring on anybody's labor, but upon the strongest and most clearly understood motives of necessity, and of indispensable necessity, to do so. It should always be determined on in a formal Consultation with persons of ripe judgment, and enlarged clinical experience and knowledge. Where the necessity for removing the accumulation exists, it is, I repeat, easy to effect the removal. Certain I am that a mass of hydatids growing within the womb may grow either faster or slower than the rate of a healthy ovum. If it grows very fast it must distress the constitution, for the coincident development or evolution of the womb will be so hurried as to induce a morbid state of that organ, which will fret the nervous system, sometimes very dangerously. But I find I am lapsing insensibly into an obstetrical topic, and shall, therefore, cease to discuss it here, in hopes of presenting it at fuller detail in my work on Midwifery; and as I have now treated, *tant bien que mal*, on all the particular maladies of the womb, I shall close this letter, in order to take up some of the questions as to diseases of the uterine appendages, as they are called. It would be far truer to call them the reproductive organs, for I am always of the opinion announced in an early letter of this series, that the stroma of ovaries is the true sexual tissue of females; in fact, that stroma is sex for them.

C. D. M.

LETTER XXVI.

Gentlemen: I have now to offer you some remarks upon the diseases of the ovaries; and I wish that in doing so I could feel that the study and treatment of such affections had enabled us to give to the medical student clearer views as to the origin and the means of providing for an early detection and control of such maladies, than those which the labors of the numerous writers have opened up to us on these subjects. I am persuaded, however, that our early knowledge of the disorders of these most important organs is vague, and that the most serious of their maladies are of a nature so insidious as to allow them to become considerably advanced and firmly established, long before they are detected by the pain or inconvenience or interrupted function to which they give rise.

The ovaries are the reproductive organs, and they are endowed with

a life-power that is variable in its operation, alternately torpid or quiescent, and highly excited; pale and oligæmic, or red and hyperæmic; so that the life-power does not act steadily and continuously, or in one even tenor, but is diminished and augmented by turns, exposing the texture to the multitudinous accidents that are ever ready to happen in tissues or organs of an unsteady rate of vital action.

One or other of the ovaries matures an ovule in the Graafian follicle every twenty-eighth day, and discharges the egglet either into the fimbria of the Fallopian tube or into the peritoneal sac, and this with the greatest regularity in all healthy women that menstruate. Each of the ovaries contains fifteen or twenty of these Graafian follicles, of various sizes, from the bigness of a mustard seed to that of a pea. The smallest ones are generally to be found buried deep in the substance of the stroma; while the larger and more mature ones are found nearer the surface of the organ, and even protruding above its surface segments of spheres more or less considerable, as the cell is more or less prepared for the act of ovi-posit.

Seeing that only one of the Graafian cells is as a general rule, matured at once, and that the later days of its ripening process are those in which the process goes on most rapidly, we may well conceive that such greater celerity of development takes place in consequence of a greater activity of the vital processes concerned in it. In fact, if we examine such a rapidly developing cell and germ in the body of a person who has perished during such act, we find the necrologic proofs of that extraordinary excitement. These proofs are seen in the highly injected state of the portion of the ovary immediately in contact with and circumjacent to the swelling follicle, where numerous arterioles and venules may be observed with the naked eye, and more plainly with a lens, surrounding and burying the growing cellule among a mass of engorged bloodvessels.

It is also presumable that the nerves of a part, bathed in this manner with a luxuriant circulation, will be in like manner in a hyperæsthetic state; and hence that the life-force in the said part will be in a highly exalted condition of activity.

Whenever you shall examine an ovary, under these circumstances, I doubt not you will find the state of the case as I have represented it; and I can but perceive in it a close analogy to what happens during the last stages of dentition as to the gum over a growing tooth. The gum, in such state, becomes swollen, succulent, sensitive, and painful. In like manner, I suppose, the stroma of the entire ovary may become engorged, swollen, red, and, in some instances, sensitive and painful. But the Graafian cell having at length become perfectly mature, opens by

a sort of hila or small porule, in order to allow the yelk to escape; and the crypt, left upon its escape, fills with coagulated blood, while the edge of the pore is left granulating and bloody, but at last heals over. In process of time, the coagulum left within the crypt, and the vitellary matter secreted on the exterior surface of the inner concentric spherule of the cyst to constitute the corpus luteum, are both absorbed, leaving the surface of the ovary indented with its puckered cicatrix, the mark of the last menstruation. If an advancing tooth may excite such maladies as are attributed to dentition in children, what must be the extent and power of complication of the ovary, in the monthly act of developing and eliminating the ovulum; especially in the last days of the process when the life status is to be presumed to be highly exalted!

A monthly, or bi-mensual repetition of this process, continued for years, is in some women followed by diseased or morbid life in the ovarium; and we ought not to wonder if so delicate and important an organ should sometimes be found to succumb to such violent revulsions of its physiological action, repeated for months and years in succession. I should think we have greater reason for surprise at the rarity than at the frequency of the rise of ovarian diseases, under this view of the nature of those organs.

Besides the above-mentioned causes of liability to the superinduction of disordered ovarian health, we ought to take into consideration the state of the ovaries in gestation, one in which both their innervation and circulation may be supposed to be subjects of considerable modifications. Labor, too, and the lying-in state may be supposed to bring them into no little hazard of a change in their life-action.

There are certainly many women to be met with who complain of ovaric pain during the menstrua—for they are frequently found to indicate, not the uterus, but the left or the right ovarium, as the seat of the distressing sensations of painful menstruation.

The ovaria are moreover occasionally the seats of ovaritis in an acute form, betrayed by pain in the region of the organ, and demonstrated by purulent disorganization after death; and inferentially, by collections of pus, which discharge themselves at the groin or above it, with recovery of the patient.

It is probable, as Madame Boivin states, that acute inflammation of the ovary, in the non-gravid state, has rarely been observed; or, rather, has rarely been with clearness made out; and yet, as I have met with many samples of very distressing pain and tenderness in the region of the organ, connected with painful and hysterical menstruation, I deem I had good cause to suppose the ovaries were actually in a state fit to be called ovaritis. Very certainly, many of the cases of puerperal

metritis and peritonitis commence with pain in the iliac regions; and, where the case has proved fatal, dissection has revealed greater ravages in the ovary than elsewhere; and it is by no means rare to find the organ filled with pus, or converted by the inflammation into a mass of softened tissue, which had undergone the process of *ramollissement*, one of the results of inflammation in this special tissue. These facts lead me to think that puerperal fever often takes its rise from a topical inflammation in the ovary. I regard the following case as one arising from acute ovaritis. I had for a long time charge of the health of a lady here, who at her mensual periods suffered the most terrible paroxysms of hysteria, during which she experienced such distress in the regions of the ovaria as to cause her to scream and to make the most violent complaints. She recovered of her dysmenorrhœa, and gave birth to two children, the second one about two years after the elder. Subsequently to the second confinement, she discovered a small floating tumor in the left flank, which I ascertained to be an enlarged ovary. That tumor may have been three and a half by two inches in diameter, and for the last four years has not sensibly increased in size.—The catamenia are regular and no longer painful, and she uses great precautions as to exercise, diet, dress, &c., at the mensual periods, which have thus passed over her without seeming to aggravate the tendency of the ovary to grow.

When an ovary has become the seat of either a hypertrophic, or a heterologue development, it probably ceases to produce and evolve germs, but it is still liable to periodical augmentation of its life-action, as propagated from the healthy ovary to the womb, and from the womb to the diseased ovary. If this be so, then the most hazardous period for the female with a diseased ovary, especially in the early stages of such diseases, ought to be esteemed the menstrual period; hazardous, I say, as to the danger of increasing the propensity to morbid development, not hazardous as imminently dangerous to the life of the woman. I trust that you will reflect upon views of this sort, when you come to give advice under such circumstances, and institute such a course of treatment and management of the health as may enable the woman more safely to pass these mensual crises. You will counteract by venesection, by leeches, &c., the too great degree of periodic hyperæmia.

In a case of acute ovaritis, attended with constitutional disturbance in the form of fever, and with pain in the region of the ovarium, you would resort to venesection and leeches, or cups to the iliac region, to stupes or cataplasms, to the obtaining a soluble state of the bowels, and the use of tartar of antimony and potash, or Dover's powder, with recumbent rest.

The vast extent of growth in these morbid states is shown in the following instance: A few years ago, I opened the body of an elderly woman, who died with an immense collection of water in the abdomen. The fluid amounted to several gallons, and after it had been removed, I continued the incision from the sternum to the pubis, and when I had finished the incision, and, with the medical friend who was with me, looked into the cavity, we were both for some time very much astonished to behold only a smooth mucous-serous surface in the cavity, and looked for some time in vain to find any liver or stomach, or alimentary canal. It seemed that we were examining an abdomen from which all the viscera had been carefully removed. I was greatly astonished, and quite at a loss what to think of the case, or imagine what had become of the abdominal viscera, since the line of the spinal column was strongly drawn at the back of the cavity we were inspecting, and we seemed to look quite up into the empty concave of the diaphragm. At length, in examining the cut edge of the incision, I saw that we were looking into an empty cyst, whose edge was there to be seen, and the outer superficies of which was adherent to the peritoneum. The cyst adhered pretty firmly everywhere, but was cleavable. I detached it completely, discovering the atrophied organs behind and below it, firmly compressed against the back part of the abdomen. I have no doubt this cyst held more than a thousand ounces of serum; probably twelve hundred. There was, at the lower part of it, a small solid or hardened portion, which was the altered remnant of the left ovary, all the rest of the cyst having been developed out of that body. I gave the specimen to Dr. Horner, who preserves it still, I believe, in the Museum of the University of Pennsylvania. It was the largest single cyst I have ever met with.

Now, gentlemen, what was this cyst? It was certainly no longer an ovary, but a new tissue, heterologue, formed on the generic basis of a true ovary, and commencing, perhaps, as a Graafian cell, which, instead of bursting to discharge its ovulum, continued to fill and to strengthen itself, appropriating to the extension of its heterologue walls all the nutritive results of the ovaric circulation and innervation.

It was a case of encysted dropsy of the belly. The cyst was an altered ovary. It was a single cyst.

It does not always happen that the ovary, in developing itself out of, and beyond its generic form, assumes the character of a single cyst, like the one above mentioned. It more commonly, I think, consists of much solid interstitial material, containing within it cells of various sizes, from the magnitude of a walnut to that of a child's head; and in

these instances, the fluid is ropy or albuminous, and sometimes almost as thick as melted calves' foot jelly or glue.

In some of the samples, there is a great bunch of solid material lying partly within and partly above the plane of the superior strait, with one vast cyst holding eight hundred to one thousand ounces of fluid, that fill out and distend the belly as a fluctuating mass, like a common ascites.

If you do not see the patient in an early stage of the disorder, nor until the abdomen has become very tense from the vastness of the collection, you will scarcely be able to make a good diagnosis of the tumor, since the hardness and resistance of the belly will not admit of your fingers indenting it sufficiently far or deep to make out the existence, much less the size and form, of the more solid masses of the altered ovarium. It is not until the woman has been tapped, that the relaxation of the abdominal walls permits the palps of the fingers to estimate the existence, and size, and form of the solid portions of such tumors. Hence, when you shall be invited to give your opinion in a case of this sort, as to its nature, as whether ascitic or cystiform, you will be unable to answer positively the question ; or, if you do answer positively, you will do so at the risk of compromising your own reputation, and injuring that of your brethren. You have no occasion to hesitate in such a case. If the means of discrimination are not at your command, why should you not say so ? If you owe a thousand dollars and have not the money, you should say so. If you cannot tell what is the nature of a tumor or a collection, are you afraid somebody else will know better, and thus discredit you ? Let him know better, if he can ; but he cannot. If you cannot touch the altered and solid masses, either by the vaginal or the external exploration, how can he do it ?—If you cannot extract a clear history of the formative stages, how can he do it ? If you can estimate the fluctuation, what can he do more ? Let him make his declaration—he does it at his peril, not yours. There are some that will be ready to make it, hit or miss—with all my heart ! Let them hit or miss. If they hit, they are like rockets, that go up with a whiz and a great light—if they miss, they are like the rocket-stick, which falls stinking to the ground. There are two ways to hurt the profession, which any one may understand. One is to act immorally and unconscientiously ; and the other is to make mistakes in diagnosis, treatment, and prognosis ; both serve with equal force to bring physicians, as a body, into disgrace. The whole herd of quack doctors and charlatans, who perform such inexpressible wonders of folly in diagnosis, treatment, and prognosis, are sustained upon the shoulders of our Medicine. They could not exist in an enlightened community, but upon the strength of that confidence which mankind cannot with-

hold from medical science; but which is so peculiar, and therein so far beyond the reach of the outsider classes, that those classes cannot discriminate between the true physician and the unlearned and bold pretender to medical science. Hence, we, that is the physicians, who are the conservators of Medicine, and her representatives in the world, must bear all the odium of every vile quackery and charlatanism.

These encysted dropsies are often very chronical in their movements. I know a lady who has borne one for more than twenty years—it has never been tapped, and is not larger now than it was fifteen years ago. Another lady here, with a very large encysted dropsy, gave birth to several of her children after the cyst had become very large indeed. She ceased to bear children, after having been swollen for fifteen years; and at length, the weight and tension becoming insupportable, she was tapped with great relief, and without any inflammatory result, or any inconvenience. In about five years, the sac was insufferably full again, and she was tapped a second time, discharging a vast quantity of fluid. She recovered apparently, but, about twelve days afterwards, rode twenty miles to a funeral. Soon after reaching the country place, she was seized with symptoms of peritoneal fever, from which she barely escaped alive. The sac has again filled. You see how chronic the case is. She has not been tapped for near these six years.

A lady here had a very enormous encysted dropsy. She was never tapped. After bearing it for many years, the size of the abdomen diminished, and more and more rapidly, until every vestige of the malady has vanished, and she now enjoys good health.

I saw a patient in the Pennsylvania Hospital with ovarian dropsy. The tumor gradually disappeared, and was followed by crural phlebitis of the left leg, or milk-leg.

Now the question arises as to the *quo modo* of these disparitions of ovaric dropsy. You will not, I presume, imagine it to be possible that the collection within the cyst—a collection that has existed within it for a series of years—could be taken up by absorbents of the sac, and carried off as in ordinary cases of absorption. You should recollect that the sac is only like a true organ, but not a true one; it is not in truth a human tissue, or a tissue of a mammiferous creature; it is something different from any of the organic materials that enter into the composition of such a being; it is a monstrosity by excess, a case in Teratology. Such a cyst, though it has arteries, and capillaries, and veins, and nerves, has them in a new and non-generic way. It cannot be supposed to possess the just proportion of absorbing apparatus; and it cannot, therefore, absorb the products of its exhalant or secretory elements. But still, such tumors do disappear now and then.

May 23, 1852. I this day examined the hypogastric region of Miss M. This lady, who has a very great spinal curvature, was examined by me about nineteen or twenty months since. I then found a very solid, incompressible, and immovable tumor, large as a child's head at term, which occupied the hypogastric region, and which *was not a womb.* It appeared to come up out of the pelvis. I considered it to be an ovarian tumor—and of course my opinion was that it was incurable, and must, in the course of time, destroy her life. To day, no trace of it is discoverable—nor is there any reason to suppose it exists. I take comfort from this example—one of the most extraordinary I have met with, for all future cases of a similar character. I am wholly at a loss to account for its disappearance, since I am sure it *was not a hypertrophied* womb that I detected nineteen months ago—and that it was not any glandular or hygromatous tumor. She is well in February, 1854.

Without pretending to dogmatize on the subject, I may be allowed, I hope, to say that, in all such cases of disparition of the collection, I have supposed that an accidental aperture being made in the cyst, the fluid has passed into the natural sac of the peritoneum, and, being there subjected to the action of a true natural absorbent apparatus, has been taken up and carried away, leaving the sack itself to collapse and shrivel, and sink back towards the pelvis, where it might exist during a long lifetime, an innocuous mass that never fills again, and whose inner parietes, perhaps, become coherent from long quiet contact. In the case of adhesion of the cyst to the peritoneum, in the elderly woman that I mentioned a little while ago, the cohesion was equal in force to that of a full-developed placenta with the uterine paries, or equal to the cohesion of the skin of a ripe orange to the fruit.

That such apertures and leakages of the ovarian cyst into the peritoneal sac do take place, has been proved by Dr. Bennet, in his account of a case referred to by Prof. Simpson in his pamphlet on "Ovariotomy," page 5. Such a leakage, to a greater or less extent, must, I think, always follow the tapping of an ovarian cyst, when the cyst does not adhere. Yet the traumatic leak, thus produced, rarely cures the patient. It is not improbable that the danger of the operation of tapping, in these encysted dropsies, arises, in the main, from the irritating influence of the contents of the cyst effused suddenly into the peritoneal cavity, upon withdrawing the canula. When the cyst opens spontaneously, and the leakage is small and gradual, probably the inflaming tendency is less. Possibly the tension hinders inflammation. This, however, is mere hypothesis, although it is certain that a great many of those persons speedily perish who are for the first time

subjected to the paracentesis. If my hypothesis is correctly founded, it would seem to be less dangerous to tap in the compound dropsy of ascites and encysted collections, than where the sac is still unbroken; for the peritoneum, that had learned to tolerate the leakage, would not suffer from a greater leakage made by the trocar. Certain I am that, where a female has been once tapped for an encysted collection, and escaped death, she is but little liable to perish from subsequent operations; such at least has been the result of all my experience on this head.

Dr. Lee, *Tumors of the Uterus*, p. 175, has furnished some highly interesting information on the subject of tapping these cysts. He avers that, where the collection exists in a single sac or unilocular cyst, the danger is much less than in the cases where the collection is contained in many different cells or chambers of the tumor—and this, I think, is to be expected; inasmuch as the multilocular cysts are always of a more massive and solid material, and afford greater basis for inflammation and its products; whereas the unilocular cyst is like a vast bladder, possessed of scarcely an organization, and not so readily obedient to the provocatives to inflammation; or, if inflamed, not admitting of such vast masses of inflamed material.

Dr. Lee has made some curious, interesting, and valuable researches on the effects of these tappings. He has collected forty-six cases wherein the effects were observed, eight of them by himself, five by Dr. Ashwell, five by Dr. C. Smith, six by a London surgeon of high standing, and the remaining twenty-two taken from journals. Of these forty-six patients, thirty seven-died and nine recovered. Of the thirty-seven who died, fifteen died within one month after the operation, at various periods from a few hours to the end of a month. Seventeen died by the expiration of two years, and five died in from three to fifteen years. Eighteen of the thirty-seven were tapped but once; the others more than once, say from twice to seventy-eight times. Dr. Lee furnishes also a table of twenty cases from Mr. Southam, from the *Lond. Med. Gaz.*, Nov. 24, 1843. Of these twenty cases, fourteen died within nine months, two within eighteen months, and the remaining four in several years, from four to nine. Dr. Lee gives, at page 180, another table, showing that of fifty-seven patients, from his own tables, and Dr. Southam's combined, who died, twenty-four died after the first tapping, and all of the twenty-four within a period ranging from a few hours to eight months.

I have made the above citations from Dr. Lee's work for you; I should much prefer that you consult the book for yourselves. I think the statements of the author highly useful, and am sure that they agree

very nearly with my own observations. As to the cure of dropsy of the cavities, or of ovarian dropsy by tapping, or after tapping, I have never met with an instance of such success, though the case mentioned on page 333 seemed for several years to be a cured one. In the end, however, the collection was renewed, but has never been tapped.

I trust that what has now been said may serve to put you on your guard against an opinion, very prevalent in our profession, that paracentesis abdominis is a slight operation, that may be performed with safety to the patient. I have assuredly not observed it to be so, since I am under the impression that of first tappings, of which I have been a witness, *wellnigh one-half* have been speedily followed by the death of the subject from peritonitis, developed soon after the performance of it; while all of them ended fatally, sooner or later, save the case above mentioned.

These encysted dropsies may occur in young and unmarried females. I now remember seven cases of this kind that have fallen under my immediate notice: I have certainly seen a much larger number of them, and a great many in married women.

You will in vain attempt to cure them by diuretics. Diuretics and hydragogues cannot enter into competition with the powers concerned in excreting and augmenting the fluid contents of the sac. The sac does not obey the laws of the system, and laughs at your therapeutical nonsense. It is wrong, therefore, to assist the disease in uprooting the foundations of the constitution by poisoning it with drugs, most of which are exceedingly enervating in their influence on the stomach and bowels. In the conduct of all such chronical, long-continuing maladies, you ought never to lose sight of the liability of those important organs to be injuriously deranged by the protracted employment of remedies addressed either directly to them or through them to the parts, or to the whole constitution of the patient.

We have hitherto spoken chiefly of the unilocular cyst constructed out of the ovarium. It is necessary to observe that some of the ovarian tumors are solid degenerations of ovaric tissue enormously increased in mass, and totally destitute of the anatomical characters and physiological powers of the stroma. Such a tumor, when felt through the abdominal parietes, is found to be hard, resisting, presenting a defined outline of an irregular figure; because the surface of the tumor is broken by large lumps or protuberances divided by sulci of various length and depth. Some of these tumors, when cut open, present either a sort of hæmatomatous or a cerebriform appearance as to color. Others are filled with numerous cells or loculi, containing viscous or serous matters of effusion, and sometimes pus or puriform excretions.

The loculi are of various sizes and shapes, some communicating together, and others entirely isolated. The tumors are found sometimes of a size to fill up the cavity of the belly so as to make it as large as that of a woman in an advanced stage of gestation. In many of the samples, adhesions of the peritoneal surfaces of the tumor to that of the intestines or the abdominal walls are observed, the results of ancient, or recent, or oft-repeated attacks of peritonitis. But why describe the peculiar forms and aspects of tumors which embrace within their outline the possible modifications of the cellular, the vascular, or fibrous elements of the altered organ; modifications so infinitely varied and mixed, that the usual and clearest description given of them in a necrological account is a "mass of disease?"

Tumors of this fashion, large as a man's head or larger, draw nearly the whole of their support from one ovaric artery running off from the aorta, or emulgent, and reaching the points of distribution after a long tractus, while its strange vitality and economic connection are maintained chiefly by the accompanying spermatic nerve. It is clearly a case of physical sin and absolute rebellion against the specific authority and laws of the economy, so that it can neither be recovered nor subdued. What idleness, if not what folly, to give medicines! Medicines for a *tumor!* Give medicines for a swelling, for a disease, but not for a tumor!

"What, then! Shall we not treat such cases?" Yes, surely; they require treatment; they admit of it; and the patient is benefited and even preserved by it; but the tumor is unaffected—it pursues the even tenor of its way, indifferent to the condition of the woman upon whose person it has attached itself, and on whom it preys. I have before said that you cannot make a very certain prognosis of it, for you cannot know whether it will grow continuously larger, or whether, becoming the seat of a disorganizing activity, it shall soften and deliquesce or suppurate within the abdomen, pouring its fatal products into the peritoneal sac; or whether, preserving for years its quasi organization, and losing the power of increase from atrophy of the most distal and attenuated branches of its vessel and nerve of supply, it shall stop at a term, and continue there for years without apparent change. For example, there was a lady here of whose health I had principally the charge for about eighteen years. For eight years before I became acquainted with her, she had suffered from an enlargement of the right ovarium. The tension, and pressure, and intrusion gave her at times much pain in the right inferior portion of the abdomen; and at different times since my being first called to her, she had attacks which I regarded as peritonitis, brought on by the pressure and friction of the mass. These

attacks pretty readily yielded to the appropriate antiphlogistic treatment, consisting mainly in copious depletion and recumbent rest. The tumor, which scarcely changed in the course of eighteen years, except, perhaps, in a slight increase of its magnitude, never exerted the least influence on the nutrition of my patient, a robust, ruddy-faced, even fat woman, who walked freely in the streets on affairs of business or amusement; and there was good reason to suppose, from her condition, that she might attain to an age not the least curtailed by a tumor of the ovary as large as a man's head, and so firm in its resistance as to yield not at all to pressure, and afford no reason to suspect the presence of fluid within it. In all these eighteen years, I never gave my patient any medicine with a view to act upon the tumor. I bled her many times for the accidents arising from its pressure, and administered many doses of medicine with a view to obviate the effects of those accidents. Had I been occupied always with the preposterous idea of curing her tumor, she would have taken physic enough to establish a Chestnut street apothecary, and *cui bono*, I pray, save to the apothecary? She grew old, and falling in the street, got a compound dislocation of the elbow. This ruined her health, so that in the course of a year or two she died. I examined her body and found the tumor gone, leaving only a small portion of indurated substance within the pelvis.

These solid tumors nobody, in his senses, would propose to tap; and, you see, I insist there is no medicine can do them good. What then is to be done? Can ovarium tumors be cut out? Yes, they have been cut out, and the patients, in certain instances, have recovered.

As to the question of cutting out the ovarium tumor, it is a question in Surgery, which, as an Accoucheur and a Practitioner of medicine, it may be supposed that I have no special claim to speak to. Still, I have an undeniable right to lay before you a statement of the motives that should govern me in any question as to the performance of this operation on a patient of mine; and, I trust that, in entertaining the opinions I do on this topic, I may be held to do so not without due respect to the enterprising and courageous surgeons who have advocated the extirpation of the diseased ovary. Nevertheless, as, in an article on ovarian extirpation, by Dr. Atlee, in the *Amer. Journ. of the Med. Sci.*, I am very imperatively informed by that gentleman that I ought not to possess "influence" in questions of Surgery—though he compliments me as an Accoucheur; and as the very ancient advice to the shoemakers, *ne sutor*, &c., seems hardly applicable as between members of the confraternity to which both he and I belong, I reject his authority over me. Dr. Atlee's coolness in cutting open a woman's belly does not, I should

think, entitle him to judge more clearly than I as to the morals of such surgery; for, in such operations as those under consideration, the determination to do or forbear is certainly a question of high morals, in which, as a professional man, I have an interest as great as that of any mere surgeon. Dr. Atlee likes them; on the contrary, I detest them, and should be glad to see them prevented by statute.

Indeed, as to surgical operations in general, I hold to the sentiment that prevails very extensively in this quarter among surgical gentlemen of the highest standing, that it is a dire necessity that compels a resort to the bistoury; and that the fact of a surgical operation being necessary in any case, is a reproach to medicine. This is a noble sentiment, and one that deserves to be upheld and propagated far and wide by all the true lovers of our divine art. It has, in a prime degree, governed the conduct of the surgeons of the Pennsylvania Hospital these many years, and is one of the titles to that general confidence that has been given so steadily to that admirable establishment.

I should be glad if you would look over the statistics of ovariotomy to discover how many bellies have been ripped up by the surgeons in the expectation of having the blessed satisfaction and *praise* of curing a tumor; whereas they *very often* have found only a womb, which they dared not cut out. Suppose a surgeon to open a woman's belly to extirpate an ovary; that he finds no ovary there—that he then sews up the gash; and next, that she dies! what should the attorney-general say?

Doubtless, in the history of Surgery, many cases are to be found of operations performed without necessity. That this is the case no one can deny who will refer to the examples of the Cæsarian and Sigaultian sections; not to allude to many others that are on the files of cases. I regard all ovariotomy as in this class.

But, as "life is short, while art is long, occasion fleeting, and judgment difficult," to use the language of the first aphorism, there must have been, and must still exist many cases where the actual circumstances cannot admit of the exercise of a perfect judgment; so that operations are performed under the spur of a seeming necessity. Many a limb, for example, is sacrificed by the catlin and saw, that might be saved by the use of a more sober and cautious judgment.

In regard to the Cæsarian section, for example, which is, perhaps, the most important of surgical operations, much is to be left to the judgment and conscience of the surgeon and the gentlemen of the consultation, since, even at the present day, it is not decided what precise degree of reduction of the pelvic diameters makes the operation

not lawful only, but indispensable as an act of professional duty and charity.

For a medical man, called to and placed in charge of a labor with deformed pelvis, there is a most solemn obligation resting on him to protect the lives of both the mother and the child; and if he be truly competent to the exercise of that wise discrimination and judgment that alone are suitable to such great and trying occasions, I can clearly perceive that, with the calmest and most untroubled conscience, he may recommend and perform the Cæsarian operation, which he knows will result in the death of the mother in about one-half of the cases in which it is performed; and I deem that, where he has both advised and performed the operation, he might look with an undisturbed aspect upon the body of the victim he vainly strove to save. Such a person, being in charge of the case, cannot escape from the stringent necessity of acting in it. He cannot go out of the lying-in chamber saying that there is a chance for recovery by the Cæsarian section, yet declining to do it.

Not so in any tumor or other malady developed by diseased action. For example, in a cancerous breast, a man may refuse or consent to perform the operation for its ablation; but he cannot refuse the operation of lithotripsy, or that of cutting for the stone in the bladder, in a case proper for it. In the case of the cancerous breast, he may decline or consent, according to his opinion of the risk from the operation or of a return of the disease. In the case of the stone, he cannot refuse, on account of the urgent distress that appeals to him for relief.

In forceps operations, and embryotomy operations in midwifery, I do not understand how any one can have the right to decline interfering where the safety of the mother or that of the child clearly requires his intervention. In such cases as stone in the bladder, in amputations for railroad accidents, for white swellings, &c. &c., the requirements are instant and pressing, and the exigency admits of no refusal nor delay. It is a hard and dire necessity then that makes the act of the surgeon not only excusable, but charitable, and even noble. Any surgical operation founded on other principles—on some cold and calculating computation of benefits possible, I regard as of doubtful propriety; and I believe that no surgeon ought to operate where he can escape the duress that binds him to do his cruel kindness.

I will add that, in the Cæsarian operation, there is but one rule for the conscience of the physician, and that rule has reference to the mother. The Cæsarian operation ought never to be performed for the sake of the child. If a man perform the operation for the sake of the child's safety, and the mother perishes, who might have been saved

by some other method, I see not how his conscience can ever recover its composure and complacency. No! Whenever you are tempted to perform the Cæsarian operation, let it be done from a conviction, and a clear one, too, that to deliver *per vias* is either impossible or equally hazardous with the section. When you can come to this intelligent conviction, then you can enjoy the high gratification of hoping to save both the mother and her offspring.

Having said so much, it is clear why I am opposed to the operation for extirpating the diseased ovary; the ground of my objection resting in that principle of surgery, which I hold to be one of its highest principles, that there can be no duress, no binding obligation to perform it, and that the surgeon's conscience may be at peace, though he refuse, and though the patient perishes by the progress of the malady.

While I have read with great pleasure Professor Simpson's remarks in favor of ovariotomy, for a copy of which I am indebted to his politeness, and while I admit the considerable force of many of the arguments arrayed in his publication, yet I see no parity in the *duress* of the surgeon who decides upon an ovariotomy, and that of the surgeon who performs the operation for the stone; or an amputation; or the ligature of an important vessel, &c., which he dare not refuse to perform; whereas no such urgent, imminent, and definite necessity can ever be supposed of an ovariotomy operation.

In the one case, the surgeon resorts to the operation under compulsion of an imminent and pressing danger; in the other, he takes his instrument in his hand under the dictation of a cold calculation of chances as to human health or life. Now, who, I pray, has the right to calculate as to the value of a man's life, even for an hour?—much more, for a week, a month, a year, or a quarter of a century!

I am opposed, then, to the operation of ovariotomy, and I am opposed to it on grounds of objection that I consider valid against all surgery that is not unavoidable.

Jobus à Meekeren, *Observ. Anatomico-Medicæ*, gives us an account of a horrible operation on a woman affected with a supposed procidentia uteri. After long and doubtful consultations, it was resolved to operate for the extirpation, which was accordingly done. "*In diem usque quartum omnia bene se habebant*, ast circa sextum, septimumvè, vires valdè imminuebantur; febris contra et animi deliquia, augebantur SIC QUIDEM, UT BREVI, DEO ANIMAM, NOBIS CORPUS EXHIBERE COGERETUR." It would scarcely be unfair to say of all the fatal results of operation for extirpation of the ovary that the patient is compelled to render her soul to God and her carcass to the surgeon. See *Mangetus Bib. Medico. Pract.* iv. 1026.

Ovariotomy operations are not unavoidable, since no one, I presume, would think of operating for a patient not remote from dissolution; and since, in any case not menacing a speedy termination of the life of the patient, the unavoidable necessity has not arrived.

In a note that I added at the 415th page of the American edition of *Colombat's Treatise on Diseases of Females*, I stated that I fully concurred in opinion with M. Colombat, who disapproves of the ovariotomy operation, and that I look upon operations for the extirpation of diseased ovary as not to be justified by any amount of success. There are certain medical facts that belong not to us as a body of physicians alone, but which enter into the common treasury of human knowledge, and which no array of statistical results can ever, I imagine, change or abrogate, and it is certainly in the nature of things that wounds, even small ones, of the great cavities are dangerous wounds; and, *à fortiori*, wounds of vast dimensions, and wounds, too, requiring that other deep-seated parts should be cut away and vessels tied within those cavities, are so dangerous, by the common voice and consent of mankind, that I should in vain endeavor to reconcile it to myself that I am bound to do such things, except under the duress and stringent necessity laid upon me by my position as physician or accoucheur. No man's statistics can change or abrogate the opinion of society on this point.

I have already shown you, from Dr. Lee's work, how dangerous is the simple operation of a first tapping in ovarian tumors. What I have already stated as to my opinion on the binding nature of the chirurgical duty in serious operations may excuse me from giving you such trouble, for I hope I need take no further pains to show you that what you *must* do, and what you may *prefer* to do, in the way of surgery, are categories wholly different from each other. It is clearly a mistake to found your approbation of ovariotomy on any comparison of the safety of that operation with the safety of amputation, lithotomy, &c. &c., because you cannot avoid the latter, while you must simply prefer the former. In surgery, there should be no preference; surgery depends upon I MUST, not upon I WILL. C. D. M.

LETTER XXVII.

Gentlemen: The Fallopian tubes, like the ovaries and other reproductive tissues, are liable to disease ; but it unfortunately happens that the Fallopian tubes, being hidden within the bony cavity of the pelvis, and unapproachable either by the vaginal Touch or the hypogastric palpation, may be the seats of disease, proceeding to the most inconvenient or even dangerous extent, without our being enabled to detect its existence by any process having the clearness of demonstration. I presume, indeed, that, for the most part, Fallopian disorders will scarcely be clearly made out until a necrological examination may serve to reveal them. This opinion, I think, is well founded, except, perhaps, as to some samples of tubal pregnancy, of which the signs, too late discovered, are sufficiently clear to admit of our pronouncing boldly upon the case.

Affections of the Fallopian tubes may serve to condemn a female to incurable barrenness. Thus, if a female, in early life or later, should experience an attack of acute peritonitis, marked with the characters of adhesive inflammation, the Fallopian tubes, one or both of them, might become attached by adhesive bands to the broad ligament, or to the bladder, so as effectually to prevent a tube, ever afterwards, from serving as vector of the ovulum to the womb. In such an instance, it would be impossible for fecundation to take place, and equally impossible to make the diagnosis of the accident during the person's lifetime.

An adhesion of one Fallopian tube to the broad ligament, leaving the other one free to fulfil its office of excretory duct to the ovarium, would not, however, necessarily interfere with the reproductive power of the woman, since one ovary might produce germs for the fecundative conflict. Neither would such an adhesion expose the woman to any danger of suffering from violent traction and disruption of the adhesion, in case she should become pregnant, when the womb must rise upwards to the height of the scrobiculus cordis ; because the broad ligament itself equally yields to the distending force of the growing womb, and thus carries the adherent tube upwards along with itself. No great inconvenience, therefore, is to be apprehended from an adhesion of one tube. When both are adherent, so as to prevent the fimbriæ from reaching the ovary, barrenness is inevitable.

A Fallopian tube may become the seat of inflammation, at its fimbria,

resulting in the closure of that extremity of the organ, while the uterine orifice of it also becomes closed. In this situation, it sometimes is found to be filled and greatly distended with water. A beautiful drawing representing this condition of the Fallopian tube is given by Dr. Hooper, at page 61 of his *Morbid Anatomy of the Uterus*, &c.

M. Dugès supposes that pain and inflammation in the region of the Fallopian tube, unaccompanied with swelling or hardness there, may be held as signs of inflamed Fallopian tube; but I do not discern how such signs can be taken as evidence of that particular malady; since they may be as well marks of disease attacking the round or broad ligaments, and I should place very little reliance on the diagnostic skill of any one for the particular diagnosis in question. All such maladies are and must, during their course, remain obscure and unknown, except as far as they introduce constitutional disturbance.

The Fallopian tube has been found full of blood, probably menstrual blood.

I am not aware that any one has perished from the escape of a quantity of menstrual fluid from the uterus, in atresia of the vagina or womb; and yet it seems wonderful that, where the uterus is expanded to the cubic content of twenty or thirty ounces of menstrual excretion, the uterine orifice of the tube should never suffer it to flow off into the peritoneal sac. The surprise is increased upon remembering that the tube is so expansible as we see it in some morbid specimens.

For example. I attended a lady in her accouchement in June, 1841. She had a favorable labor, and all the usual circumstances of a lying-in woman attended her for a period of many hours, when she complained of heavy and distressing pain in the region of the right Fallopian tube. The pain, and the complaint of it were great. Of a sudden, the pain began to spread over the lower belly, and the constitution evinced its participation. The pulse became alarmingly excited and accelerated, and she was soon seen to be far gone in a puerperal peritonitis. As she had complained of pain in the right side for some time before the accouchement, I feared that some local malady, suddenly aggravated, was at the foundation of the danger. She died; and upon inspecting the abdominal cavity, much pus and sero-pus were observed. But what most particularly struck me was the state of the Fallopian tube, which was much larger than a stout man's thumb; and its cavity, which would freely admit of the introduction of a finger into the tube, had been filled with pus. I have little doubt that acute inflammation of the tube, sealing the ovaric extremity of it, and afterwards filling and greatly distending its caliber with pus, which was at length discharged into the belly, is the true rationale of this fatal attack.

As the Fallopian tube conveys the ovulum from the ovarium to the womb, it is occasionally liable to destruction from an arrest of the fecundated ovulum in some portion of the tractus. An ovulum, when fecundated, whether it be arrested in the tube, or whether it be arrested in the uterus, makes its mesenteric attachment to whatever vital surface it is confined, and as no doubt is entertained as to tubal gestation, so no doubt, can be had that, in all such instances, the ovulum was fecundated before it had passed down the whole length of the tube. When such a tubal conception hath taken place, the woman will probably deem herself pregnant; since the rational signs of conception, such as nausea, deeper-tinted aureoles, and even failure to menstruate, may attend the misfortune.

No suspicion of the dreadful fate that impends the victim is aroused until the tube has attained the utmost degree possible of its expansibility. That degree will rarely allow her to go beyond the third month, before the tissue gives way; when the ovum, bursting, pours its contents into the peritoneum, followed by torrents of blood effused from the ruptured arterioles and venules of the tube. See what I have said at p. 327, as to the incapability of the tube to grow *pari passû* with the ovum.

If the patient complains, for some days before the accident, of pain in the region of the ovary, it is probable the pain will be attributed to some other than the true cause, and the first moment of the rupture will be characterized by an instant burst of distress, and a rapidly developing inflammation, attended by the evidences of simultaneous hemorrhagic exhaustion and the signs of speedily approaching death, seen in mortal pallor of the face, coldness and clamminess of the limbs, shortening respiration, and a vanishing pulse, repeated with inappreciable frequency.

Suppose you should be spoken to, on the subject of a pregnancy just commenced, for your counsel as to the conduct of the patient. If, after the lapse of six weeks or twelve weeks, you are hastily called to her, and find her in the condition above described, what other diagnosis have you to offer than that of a ruptured Fallopian tube? You see very clearly that such phenomena could by no means attend a sudden internal strangulation of a bowel; and the antecedent health of the woman would not allow you to attribute her symptoms to the perforation of an intestine. You have no other diagnosis to offer, and, unhappily, the only consolation for you, under such circumstances, consists in your ability clearly to point out the nature of the causes, and predict the verification of your decision after the death of the victim, which may be pronounced unavoidable.

I was the distressed witness of a case of this kind, a few years since, in a fine young woman, who had been several years married without offspring, when she came at last to tell me, with unfeigned pleasure, that she was pregnant, and to ask my advice as to her hygienic management. When her pregnancy had proceeded a little beyond the second month, she arose from her bed in good health and spirits. She took a broom and began to sweep some part of her apartment, when, in an instant, she felt violent pain in the region of the ovary, became suddenly of a mortal paleness and coldness, and, by the time I reached her apartment, was already sinking from the tubal hemorrhage.

Here is another case that fell under my notice.

Mrs. ——, aged thirty-two, a healthy woman, mother of four children was in excellent health on Sunday, October 7th, 18—. At six o'clock in the morning, she was gayly singing and playing with her young children at her country seat, about two miles from town. At seven o'clock, an hour later, her husband, who was sick in his chamber, heard her slowly ascending the stairs, and groaning heavily. Upon her entering his chamber, he perceived her to be alarmingly ill. Her physician, Dr. ——, was immediately sent for. He found her with a pulse at 140, and complaining of violent pain extending from the top of the thorax, on the *right* side, quite down to the iliac region. He attended her all day, applied a blister to the right side of the belly, and gave her a cathartic, &c. She passed a dreadful night, but was easier the next morning at eight o'clock, when the pulse was but 120 per minute. He left her for a short time, but found her symptoms aggravated upon his return. I was invited to see her with him, and met him at half-past two o'clock, when she appeared to be dying.

As she had vomited very much, and labored under excessive tympanitis, with violent pain in the whole belly, she got an enema, which brought off a great deal of stercoraceous matter, but without any relief of pain. In half an hour, she said: "Raise me up—my breath is leaving me!" and she was slightly elevated on a pillow, when she immediately swooned, and died.

Twenty hours after her death, I inspected the abdominal cavity, which contained about thirty ounces of blood and bloody serum. The pelvis was filled with coagula, and much blood was lying among the intestinal convolutions.

This blood escaped from a rupture in the left Fallopian tube, which contained a fœtus of six or seven weeks. The ovary was somewhat enlarged. The womb contained a deciduous lining, and the canal of the cervix contained a claret-colored mucus or lymph. The womb was larger than a non-gravid womb, though not much larger.

There is a lithographic print which very faithfully represents the appearance of the specimen, which you may see at page 107 of my *Philadelphia Practice of Midwifery*, second edition.

What, alas! can we do in these cases? We could make an incision in the abdomen, and clear away the coagula and the serum. But who is he bold enough to do so? Who is he astute enough to discriminate betwixt all the possible causes of such phenomena with so much clearness as to warrant him in the performance of a gastrotomy for Fallopian pregnancy? There is no such wise and bold surgeon; and, therefore, nothing remains for us but to extend all the relief within the narrow boundaries of our power, and calmly await and submit to the inevitable end. Such are painful scenes to the sensitive mind. They cast a color of gloom over the pathway of the medical man, whose whole walk, indeed, is among those who are in pain, in weakness, in fear, or in the valley of the shadow of death. A physician may be calm, and even cheerful, but a merry doctor is a very singular phenomenon.

The diseases of the Fallopian tube, then, you perceive, are obscure, and very unmanageable where they become serious. Doubtless they are many times unsuspected while they are the true causes of disorders treated under another name; and doubtless their inflammations, spasms, neuralgias and engorgements may yield to constitutional and local remedies addressed to symptoms supposed to depend on modifications of other tissues.

I did not say anything as to ovarian pregnancy when I wrote to you my meagre letter on the ovaries, because I intended to say what I have now said on tubal pregnancy, and preferred to reserve my remarks on ovarian gestation for this connection.

You know, for I have many times spoken with you of it, M. Pouchet's opinion that ovarian pregnancy cannot exist. M. Pouchet says, at p. 421, *Théorie Positive de l'Ovulation Spontanée, &c.*, "I formally deny the existence of ovarian pregnancy. I admit, indeed, that the egg, in the act of escaping from its capsule, may become fecundated by the sperm brought into contact by means of the fimbria, and that it may subsequently be developed at the surface of the ovarium in consequence of adhesions contracted with that organ. But I have no idea of an ovarian pregnancy as understood by writers, that is to say, a development of an ovulum still contained within its Graafian vesicle, and which by its development engenders a fœtus inclosed within the *very ovary itself*."

M. Pouchet, to whom we are indebted for the fruits of very great labor and research on this subject, can hardly, we should think, escape

from the necessity of admitting a true ovarian pregnancy, if he will consult Dr. Granville's account of the case published by him in the *Lond. Phil. Trans.*, part i., 1820. In July, 1845, I had the honor of an interview with M. Pouchet, at his house at Rouen, and a conversation took place, among other topics, upon this very one of the ovarian pregnancy. I stated my own conviction that it is impossible to deny the existence of the ovaric gestation, and that the embryo might well be developed in the Graafian follicle, which I see M. Pouchet, in the above sentence published in 1847, does not admit—he adhering to the opinion that the development can occur only at the surface of the organ.

It seems to me, gentlemen, that if you assert the mutual presence and contact of the generative elements to be necessary to fecundation, you have no occasion to doubt the presence of the male element in the tube, in all cases of tubal pregnancy at least; and M. Pouchet himself says that it may be possible for fecundation to take place on the surface of the ovary by the contact of the germ with sperm brought into the fimbria.

My opinion at Rouen was, and is still, that the porule being formed for the escape of the ovule, while still retained within the capsule by the granular retinacula, it might be the subject of impregnation by sperm brought to it in the fimbria of the tube.

Let us suppose such impregnation to have been effected—then some change of position covering the porule with a peritoneal superficies allowing of adhesion; the ovulum would be necessarily shut up in the crypt or cell, which having now become again a shut sac, development of the germ would go on absolutely in the interior of the ovulum, and Granville's fact, for facts are stubborn things, would be explained without at all shaking the conclusions of M. Pouchet as to the *oviponte*.

I cannot predict what may be the opinion you shall adopt on this point. I presume, however, there is not one among you to believe that the macula germinativa, which is perhaps the real embryotroph, and which is found on the inner wall of the germinal vesicle, buried as that vesicle is among the vitellary corpuscles of the egg, which itself is in the centre of the granular masses contained within the inner concentric of the Graafian follicle, hid below the tunica albuginea and indusium of the ovary, can be exposed to the sexual presence and contact by any process other than the spontaneous ovi-posit, which M. Pouchet describes. For my own part, I cannot imagine any other way in which the mutual influences of the generative elements can be brought into effectual activity.

I do not, then, believe that in the ovaric pregnancies the fecundation has ever been effected, except through an already opened Graafian cell,

which, being subsequently closed by adhesive inflammation at the edge of the porule, has allowed the pregnancy to go on within the ovary itself.

The womb is so constituted as to admit of a physiological hypertrophization or evolution continued throughout the nine allotted months of a gestation; its provision of materials being ample for that purpose. No such provision has been made for ovaric or tubal gestation: hence, within three months, probably in most cases earlier, the fatal rupture of the containing walls will take place, and the patient will lose her life. As I am on the subject of extra-uterine pregnancy, let me here remind you of the opinions I expressed in my Lectures as to ventral pregnancies. I said I had met with specimens of abdominal or ventral pregnancy, but always considered them as instances of fœtuses developed within the womb, and afterwards deposited within the belly, in consequence of the womb having given way to allow the contents to escape into the peritoneal sac. Some of them have been known to remain in the belly for fifteen or even thirty years. Upon investigating the cases after death, even the placenta has been found, and adhering to the mesentery or other peritoneal surface. But you are too well informed, I should think, to allow you to suppose that a full-grown fœtus could possibly be developed by means of a placenta resting on a serous membrane only!! It would be very stupid of you to imagine such a thing possible, since you know that such development requires that even the womb itself should become exceedingly vascular in order to furnish the due supplies of oxygen and plasma. Besides, how could a placenta grow, except the base on which it rests shall grow *pari passû?* Don't you see that when a large placenta is found in a ventral pregnancy, it could not have grown on a mesentery, or other superficies of peritoneum? They could not grow with it.

I have now treated in succession of many maladies and accidents of the external and internal genitalia. There are many points which I have passed over in silence, because I have wished to avoid expressing an opinion upon subjects on which I have had no practical or clinical knowledge. Others I have postponed to a future page, in order that I might not be compelled, on the one hand, to anticipate, nor, on the other, to separate subjects that have a sort of natural alliance. For example, ruptures or lacerations of the womb and vagina, it appeared to me, might better be arranged under the head of those diseases and accidents of pregnancy of which it is my intention to treat. It will be my duty to say much upon the subject of the menstrua, an important item in the history of the female, and one whose modification and disorders exert a mighty influence on her health and happiness. In order to approach this subject properly, I ought to make remarks on that

important and interesting crisis which is called Puberty in the female, and, therefore, my next letter shall be on the subject of puberty, or the puberic age. C. D. M.

LETTER XXVIII.

Gentlemen: I know not whether I shall in this letter succeed in setting forth, with clearness, the views I have long entertained, or rather those which I have supposed myself to entertain on the subject of puberty in girls; I fear I shall not. I know a man may think he has clear views on points in physiology or in general philosophy, and particularly in any metaphysical consideration, while, in fact, his notions are not clear, but confused, indefinite, dim, and not readily explainable in words. In such a state of his mind, a man will be found unable to set forth a *lucidus ordo* of thoughts, for there is no such characteristic order in his opinions on the special topic; and if a writer doth in this way fail, you have fair inference that he fails to be distinct and clear and coherent in his exposition, because he is himself indistinct, confused, and incoherent in his own appreciation of the subject under discussion.

If you had happened to be eye-witnesses of a certain historical event, you would, doubtless, expect to be able to relate all the successive incidents thereof in a regular order, as they occurred; but, should you not be able to do so, it would be because you had observed badly, and kept no memorials or records worthy to be depended upon; in fact, you would not know or understand the events of which you had been an eye-witness, and which you supposed yourself to understand and remember perfectly well. We see daily examples of this uncertainty and imprecision of knowledge in testimony given before our courts and juries by witnesses called in the case. The truth is elicited only by cross-examination. I wish you were present here to cross-examine me on the subject of puberty—perhaps we might then be able to come to a clear understanding, together.

When in this letter I come to speak to you on the subject of puberty in girls, I consider myself as having been an eye-witness, in the cases to be taken up, as to the events and circumstances that attended upon the puberic age; for the major part of my long professional life has been passed amidst such scenes and histories. During many years, I have frequently been charged with the conduct of the health of young females entering upon, passing through, or already gone beyond the

common puberic age; yet, notwithstanding I have witnessed so many cases requiring medical interposition, I confess that to write you a letter on the subject of puberty appears to me a difficult task. Certainly it is one I should prefer to avoid, both because of the doubts existing in my own mind as to the peculiar nature of the puberic affections, and of the jejune and little practical notions upon it that I find in the authorities; which I take to be a proof of the difficult nature of the subject. I must pray you, therefore, beforehand, to scan very closely the sentiments that I shall express in this letter; and, if you find them to coincide with what is true, or probably true, then to adopt and apply them in your practice; whereas, if they should prove to be hypothetical, and unfounded in truth, or in facts, you ought to reject and condemn them. I desire only that they should be useful, not merely that they should be acceptable.

The writing a letter upon puberty would not be a difficult undertaking, were one to confine himself to pointing out, in the usual manner, the period and general phenomena of the change from the girlish to the womanly estate, and furnish a copious statistic of the dates of the eruption of the menstrua in different countries. Nothing is easier than to say that, at the age of fourteen or fifteen years, the pelvis becomes expanded and consolidated; that the internal and external genitalia and the lactiferous apparatus become completed, &c. &c. But such statements, that are to be found in all the books on these matters, serve to throw but very little light on the abstruse subject of puberic disorders; they always put me in mind of the holy text, where it says: "They fill their mouth with wind, and their belly with the east wind," which, being interpreted, is in Latin *vox et preterea nihil.*

I shall endeavor, then, to relate to you what are the opinions I entertain on the subject, and point out the indications of treatment for those young people who approach dangerously and pass with risk through the great and important crisis of the puberic age. What is meant by the word puberty?

Stephens, in his *Thesaurus*, says: "Pubertas. Aetas in maribus qui est annus xiv., in foeminis xii. Pubertas plena xviii. annus est.

"Pubertas est emissio pubis, *a qua anni pubertatis dicti sunt.*

"Pubertas, generandi vis."

Dr. Noah Webster, in his *Dictionary*, says: "Puberty. The age at which persons are capable of procreating and bearing children. This age is different in different climates, but is with us considered to be at fourteen years in the male, and twelve in females;" and Dunglison, in his *Medical Dictionary*, tells us that it is "the period of life at which young people of both sexes are pubescent or nubile. Accord-

ing to the civil law, puberty occurs at twelve years in females, and fourteen in males.

You see that Stephanus, and Webster, and Dunglison—I shall not take the trouble to examine any others—agree that puberty in females is the age of reproductive power just begun, and that that power is acquired at twelve years of age; Stephanus says it is pubertas plena at eighteen; but you, even as young students of medicine, know that neither of these Dictionaries speaks truly, for the reproductive power is not attained at twelve years, in the average of cases; nor does the average come at all near to twelve years—it is beyond fourteen years in this country. The first true and veritable eruption of the menses may be taken as the evidence of the girl having reached her puberic age; for that eruption is the evidence of germ evolution in the ovary, and even of the ovi-posit. This occurs between fourteen and fifteen years of age.

Instead of limiting the application of the word puberty to the state of the girl at the first mensual manifestation, I prefer to use it as referring to a long stage of preparation for the menstrual office, and to a stage, also, which extends far beyond the date of the first show, into the period when the function has become regularly established; so regularly and firmly, I mean, as to leave no doubt on the mind as to the permanent and normal acquisition of the power; a pubertas plena. The fact is that many persons are to be met with in whom it has never been perfectly established; persons in whom the power to menstruate exists, but exists feebly, morbidly, interruptedly. All such persons have failed to pass *through* the crisis of puberty.

A girl may have a sanguine discharge from her genitalia without having any pretension to be menstrual. It may arise from a scratch, an ulcer, a wound, &c. I have observed such discharges in children at birth, in the month, and in little children under six years of age. When I have been consulted about these cases as extraordinary samples of precocious menstruation, I have been far from joining in such a preposterous notion. And I hope that you will always discriminate between bleeding from the genitalia, and the regular physiological discharge, which alone is menstruation.

The young child is but the sketch, the *ébauche*, the mould in which are to be formed the organs of the woman. She employs some fourteen years of her life in consolidating and forming her body, in order to fit it for its high destiny as a reproducing agent: but the apparatus and the force necessary for the fulfilment of that destiny are not added, except as the last and crowning power of her constitution. It is the complement of her forces. Her weak and tender tissues, in the early years of life, could not possess the strength and solidity, nor could they

furnish the materials, for the evolution and perfecting of the new being, which is, for a series of following years, to represent its parent, as one of the integers of the immortal genus, man.

The earliest years of her life are occupied, then, in bringing her up to that point of perfect development of her alimentary, respiratory, innervative, and circulatory life, that may fit her for taking on the last great reproductive force. The time for taking up that force is the time of puberty. Puberty is the term of preparation to produce and mature ovarian ovules or germs, and discharge them from their capsules in the ovary.

Having duly acquired this power and faculty, she has passed through the crisis of her puberty. She has transcended the puberic age, and has become a woman. She has become possessed of a faculty that she is destined to enjoy for nearly half of her lifetime, and then, losing it again, she turns on the reverse of the path of life, and begins to descend to the bosom of the dust from whence she originally emerged.

It might be true to say that the whole menstrual period of life, extending from fifteen to forty-five years of age, is a continual crisis for the female; yet, when once fully formed and established in the economy, it is become a nature and a habit, and ceases to have that character of crisis which more truly applies to the stage of preparation or inception of this great power, and its positive and firm establishment as a part of her life-offices.

A girl grows up from infancy, and from childhood, continually developing, confirming, and consolidating her tissues and organs, appropriate in their magnitude and their density to the particular stage of existence through which she is passing. In weight, stature, proportion, vigor, and intelligence, there is a continual conformable progress—not a nonconformable progress. The last faculty she acquires is the reproductive, the crown and glory of them all. It would be an unconformable progress in development, should its acquisition be either greatly anticipated or postponed in point of time.

In growing up from the infantile to the womanly estate, she passes through many crises, great and important ones; but the greatest and most important of all is the puberic crisis.

Thousands, and tens of thousands, nay, millions of young children fail to escape the dangers of the age of their first dentition, and the bills of mortality are swelled with the returns of death in children. The first, or milk set, having served their turn, the child incurs great hazard at the quasi paroxysm that waits upon the second dentition. Many children now lose their appetite, their embonpoint, their gayety; they cease to play, and utter the glad voice, among their shouting and

laughing companions. The pulse becomes compressible and frequent, and, upon the slightest motion, the heart beats with redoubled haste, and soon subsides again into an habitual languor of action. Fretfulness of temper, and frequent crying for any slight cause, or for no perceptible cause, mark what is very commonly, in families, known as the "cry-baby" age of children in their second dentition.

Children suffer frequent distressing pains in the decaying and loosening out of their first teeth; and a strange erethism of the parts about the mouth attends the tension of the gums coincident with the bringing forward of the permanent set. I have had many patients under my care whose health had been rendered wretched by these causes. Such patients have had convulsions, deranged bowels, palpitations, and hypertrophic throb of the heart, loss of appetite, cephalalgia, and other disorders, attributable to the difficulty experienced in forcing them through this especial crisis of life.

Under circumstances of a crude, imperfect, saburral digestion, thus brought about, the growth is sometimes arrested for a time. Thousands of children attacked at this period by disease are hurried to the grave. Measles, scarlatina, pertussis, &c., assail them at a time when they cannot resist the combined influences of a severe malady and a dental crisis, either of which, encountered alone, would probably be far less dangerous. In the progress thus far, also, some of the organs and parts of the child are occasionally observed to be unequally developed. The heart, for example, which in its evolution of substance and power ought to move *pari passû* with the entire economy of the child, is not rarely found to get ahead of the other organs; and we observe, by auscultation and other modes of inquiry, that the child of six or eight has a heart suitable for a child of eight or ten years of age; and that the non-conformable power of this prime agent of the circulation exposes the patient to danger of excessive determination of blood to the head, to the lungs, to the liver, the spleen, &c. &c., afflicting it with epileptiform convulsions, pulmonary engorgements, hepatic obstructions &c., according as the excessive momentum of the circulation happens to be determined.

Nothing is more common than to observe an excessive and non-conformable growth of the head in young persons, by which they are exposed to great risks, but which is corrected, at a later date, by the rest of the system recovering its due proportion to the encephalon, whose progress, becoming slower, allows it finally to be overtaken, whereby all the parts become equalized again. If the child, even after difficulties encountered, should get well and safely through this period, it is safe for a term of years.

In like manner, the girl approaches the greatest of all her critical stages of existence. She has concluded all the preparatory acts, and they having all been perfected and completed, she turns over from the childish or girlish to the womanly condition, without stay, let, or hinderance. She glides onward, and is found to be a woman, and that without the least inconvenience or disorder of health.

The epiphyses of the bones, and all the individual pieces of which they are constituted, have become solidified and compacted. The coxal bones and the several portions of the os sacrum have each acquired the due firmness and solidity. The pubes are covered with the marks of womanhood, and the external genitalia acquire larger proportions. The transverse and antero-posterior diameters of the pelvis have suddenly and visibly increased; the mammary glands and the aureole and the nipple are augmented in size. A growth of fine downy hair is observed on the upper lip, near the angle of the mouth; a more considerable deposit of fat lends roundness to the limbs and grace to the contour of the young maiden. A new and different lustre sparkles in her eyes, which more promptly veil their brightness by downcast glances, or the continual dreamy and thoughtful drooping of the lids above them. Heightened color in the cheek and lips shows the greater intenseness of the glow with which the fires of life are burning within. It seems as if the forces which had been employed to perfect the beautiful machine by arranging and completing the quantitative synthesis of all its organisms, were now occupied with a sort of paroxysmal intensity in adorning it with all its graces and attractions, and setting upon it the seal of perfection. She is perfect; in a few months, she is habitually, naturally perfect—the crisis is over—*inveni portum, spes et fortuna valete.* It is pubertas plena.

Let us suppose, on the other hand, that these acts of preparation have been duly effected, yet the girl is not ready. Why is she not ready? She is seemingly ready for the great change; what lets its accomplishment? She marches up to the critical age, and it flees before her. In vain the progress of weeks and of months urges her towards the goal of change; but she changes not. Insensibly and by the slowest degrees the conformable relations of her organs are found to be dissolved. Her nutrition gives place to marcor and atrophy; her brilliant hues are replaced by sallow tints. The bright laughing eye is grown dim and sunken; the heart beats hurriedly, especially upon exercise. Her appetite fails, or some craving pica or malacia takes place of the normal desire for food. Debility, exhaustion, mucous diseases, diarrhœa, or constipation, make daily inroads upon her feeble life-domain, and, while everybody knows that she would be well if she

could become a menstrual creature, few deem that, to make her so, it is only required to cure her of a *disease of the blood*, a disease whose existence is incompatible with the exercise of that great function.

There is no reason to hope, under these circumstances, that the great transformation will be effected. Such nutrition, circulation, respiration, and innervation as hers will not admit of it. It is far more probable that one system of functions after another being perverted, prostrated, and overthrown, she will become more and more diseased, feeble, and exanimate, until some local inflammation finds her an easy, unresisting prey. You have no reason to expect to cure her of her emansio-mensium until you cure her of her puberic malady. What is that malady? —how will you prescribe for it?—what is the indication?—is it that *everlasting calomel?*—is it snakeroot, senna, rhubarb, quinia?—what is it?—what ails the patient? She is impuberic, though advanced far in the puberic age.

Look at her—measure and weigh her—compare her with her former self. Don't you see what enormous efforts her constitution has made to transform her, as it has done, from the condition of a child to that of a woman? Her great haunches are no more like those of the boyish pelvis she had ten months ago than her bust is like that of a boy. Her wide womanly pelvis, and the vast glutæi, the expansive levatores, the iliacæ and psoæ, have been almost created as by magic; and all this at the expense of effort by the iliac arteries and their branches, and accompanying nerves. The same apparatus has been laboring with a surplus of activity to develop the uterus, the tubes, the vagina, and the external genitals, and all these parts are, perhaps, perfectly formed; but the sexual concrete, the vitelliferous tissue, the stroma of the ovary, is incomplete. No yelk matter can it produce; there is no germinal spot yet, no germinal vesicle, no vitellus, no Graafian follicle, and, so, no menstruation.

She has lost her health; she has fallen sick. She is useless in her present state and prospects as a reproductive agent; and the reproductive vitellary element is withheld from her. Cure her health, reestablish the conformable relations of her organisms. Let her innervations become equable in her whole body, and she will give you the proof of her restored health in the assumption of her catamenial power.

Open your books of therapeutics and materia medica. You find in them a great catalogue of plants, and minerals, and animal substances, under the head of menagoga, or emmenagogues. Does the young lady want an emmenagogue?—and what emmenagogue? Is it tansy, is it hellebore, is it madder, that shall cure the puberic disease under which she labors? I ask you again to consider the

question—what ails her? Let us try if we can learn what really ails the patient.

If you will advert to the state of the creature in the earliest embryonal period, you will remember that it passes first from the embryonal into the fœtal state, and then into that of the child, the girl, and the woman; and that all these mutations are affected by, and solely dependent on, the power of *accretion*, or nutrition of the parts. This accretion takes place at the expense of the blood, which is the pabulum, or the magazine, out of which all the new molecules are taken, and deposited under the indicating and controlling force communicated by the accompanying nerve. In fact, all life is but a continued scene of development; and but for the waste and detritus of the organs, no limit could be assigned to the extension of the body. It is the generic nature, or rather law, of a creature that compels all animal forms and parts to remain within certain boundaries, according to a pre-existing idea of such genus, or such species. Without such generic delimitations, it is plain that the whole zoological series, as well as all the vegetable forms, would be lost in the progress of a few generations; whereas, they have been kept, until now, the exact copies of those archetypes which, in the Garden of Eden, were commanded to go forth and increase and multiply, and fill the earth, *each after its own kind*—It is the greatest miracle of all.

Have we, then, any reason to be surprised, when we find that this long development of the fœtus, the infant, the child, and the girl, sometimes exhausts the powers concerned in its effectuation? For example, when the child grows too fast and falls sick; are you surprised at such an event? If the waste of the forces and materials of the blood is rapid and great under the double necessity of both maintaining the existing stage, and also of adding thereto in order to rise to a higher stage of development, what wonder have we to perceive that the child that grows rapidly tall also grows thin, and weak, and pale, and sickly? or to hear its mother say it is sick for growing too fast? Is the body in truth the "fixed and rigid blood," and has it grown too rapidly? Has the blood, which is the fluid body, become exhausted?

I assure you I think it must often happen that you shall be called to give your opinion on cases of the sort, in which you will have occasion to observe that, when nature, after a violent effort and crisis of development power, shall have ceased to develop the child in stature, it will be found to augment in breadth; and when that process is fairly instituted, it will cease to be lanky and thin; for, in fact, in the growing up of children, you shall almost always find that they grow alternately tall and bulky. When the elongating crisis comes on, they grow thin to-

wards the end of it, and are said by the vulgar—very truly, too—to "outgrow their strength." As soon as this weakness comes on, they cease to grow in longitude, and then commences the development or growth in latitude: so that the child becomes stout again; and so on it goes, growing by turns, first taller, then stouter, then taller again, and next stouter, until, at last, it shall have acquired its true generical limits and form.

A child, I said, grows from the appropriation of materials taken out of the mass of its blood, which is the pabulum nutritionis. There is then a constant and wasteful call for supply. But whence the supply, gentlemen? and shall we not expect sometimes to find that the organs of supply become wearied and exhausted of functional power by the sheer excessive exercise thereof?

And now we come to the gist of the matter: what is it that makes the blood? what is the hæmatosic tissue? That is the true question; and, if we can settle that question, we shall succeed in setting forth, in a clear and lucid order, our doctrine as to the principal maladies of the puberic age in the female.

An army of one hundred thousand men can be manœuvred and marched according to the will of the general-in-chief upon one condition only, and that condition is that its rations shall be supplied; for no courage, no discipline, no conduct on the part of the officers or men can keep it afoot without the aid of the commissariat. The one hundred thousand men would fall faster by famine than by the bullet or the sword. The daily rations which keep the army up to the faculty of the highest activity and courage are essential to supply the daily waste, consumption, or detritus of the life actions of the soldiers. The ration is converted to chyme; it next becomes chyle in the thoracic duct; and it is poured as chyle, not as blood, into the mass of the blood, when it is precipitated into the auricle of the heart. The churning power of the chordæ tendinæ mixes the new material with the old sanguine mass, and it is hurried off into the system of arteries, capillaries, and veins, and, after a few revolutions, it is—what?—blood. How has it become blood? If you answer, by the unknown force of the cell-life, I reply that a condition of the exercise of that cell-life force is this, namely, that it shall be in contact with a living solid—and what solid? It must be in contact with the *membrane commune* of the vascular cyst, the membrana vasorum communis, the endangium, as Burdach calls it. Even in the very earliest manifestations of the presence of blood in the punctum saliens of the incubated egg, where the blood-disk seems most like an independent, self-creating physical ens, which makes its own vascular tractus, we cannot deny that the

power to form itself is a transmitted power—transmitted from the living elements of the ovum itself, by which it is surrounded, and from which it receives its inducted life. The sanguine body could not have become blood in the stomach, the duodenum, or jejunum, nor in a lacteal tube, or thoracic duct; but it can become blood while in contact with the interior lining of the vessels, and even the living power of the egg inducts the life-force into the material which it elevates up to the calling and the mark of the perfect blood of the embryon. Hence, I infer that the membrane which lines the interior of the heart, of the aorta, and all its branches; of the capillary vessels, and all the veins, is a blood-making membrane, and that there is not and cannot be found any other blood-making tissue in the economy. When this tissue, this membrana communis is in perfect health, and the supply of chyle passed into it is perfect, we have perfect blood; when the tissue becomes diseased, we have diseased blood; or, at least, it acquires a dyscrasy that prevents it from exercising its due influence on the organs and tissues. Some physiologists have proposed that the hæmatosis is in a chief degree the result of an action carried on in the lacteal vessels, perfected still more in the thoracic duct, and completed in the lungs, and that these gradual perfectionings are a sort of progressive oxygenations or aerations, effected through the walls of the vasa lymphatica, &c., but, if they will insist that the hæmatosis is the work of the lungs, they cannot deny that the vessels of the lungs are the agents in the work.

I pretend not to deny the agency of oxygen in all processes of vitalization, to all which it seems indeed indispensable. But I contend that oxygen, out of the living tissues, can have no such power. It can have no such power as to the blood, at least, since that fluid changes and loses something of its real nature and character the moment it quits its contact with the living surfaces. The presence of the endangium is essential to its existence. If drawn into a basin, or shed among the tissues—if it abandon its delimitary membrane, it alters, it loses its fluidity, its elements dispart and separate, and though it may still be a red fluid, it is no longer blood, though so called for convenience sake. Like a dissolved crystal, it is no longer a crystal; or like a liquid crystallized, it is no longer a fluid. The elements remain, but the form and the forces are changed.

So little is as yet known concerning the true nature and powers of the common membrane, that I dare not trust myself to speak of it without much hesitation and doubt of my correctness as to its diseases. But at least we do know that the membrane is liable to simple inflammation, to pseudo-membranous diphtheritis or inflammatory exudation, to pyogenic inflammation, to adhesive and to destructive inflammation,

and ossific degeneration; and that is enough to show us that it is also liable to debility, and to imperfect and unequal exercise of its functional office.

Where it becomes the seat of a pyogenic inflammation, it carries death in its function; for it may then produce innumerable pus-corpuscles, which, being washed away into the circulation, poison the whole mass of the blood, and curtail existence by a purulent infection of the blood.

When, again, it is endowed with a preternatural activity and force, it, the blood-membrane, fills the vascular cyst to overflowing with a rich and excessive blood; so that the patient labors under all the symptoms of plethora; and when it has lost its tone, or has exhausted its force by excessive exertion of it, we have the appearances that appertain to the anæmic state.

Allow me to lay before you some remarks made on this membrane by Dr. Burdach, for which I refer you to the French copy, vol. vi. p. 194, of his *Physiology*, whence I have taken the following extract, which relates to a point in this discussion of the greatest interest.

"§ 698. A vessel is the special delimitation of the vital fluid, which constitutes a liquid, apart and distinct from all the other humors; that is to say, the blood. It traces out the career which that liquid is to run, and marks out the direction it is to follow; it may be considered as the expression of the blood in space, for it was formed by its current, and makes but one with it.

"Hence it follows that the most essential part of the vessel must be in direct contact with the blood and be the internal layer of its walls. This internal membrane (*membrana vasorum communis*, *endangium*) extends uninterruptedly in the heart, the arteries, the capillary vessels, and the veins. It is an elementary tissue, of a special nature, and cannot be referred to any one class of the membranes. According to Meckel, it possesses greater analogy to the serous membranes than to any others; and it is so by its structure, its vital properties, its tendency to adhesion, to inflammation, and ossification. It appears to me that it approaches in character nearest to the character of the epidermis, seeing that it separates the blood from the rest of the organism, as the epidermis separates the whole body from the external world, and as its essential properties much resemble those of the epidermis. In fact, it is a uniform, thin, transparent, whitish coagulum, without anything special in its structure; and the microscope reveals in it neither globules, nor fibres, nor interstices, nor pores. It is true that Geri pretends to have discovered longitudinal fibres in it after macerating and drying it; but such an appearance, manifested by a body in a state of

putrefaction, cannot be alleged as proof of the existence of organic fibres. The internal vascular membrane has neither vessels nor nerves. Ribes stated that he has seen vessels in it when inflamed; but everything tends to the belief that they were the vessels of the fibrous coat seen through its transparent tissue. It is fragile, as it readily breaks when a ligature is drawn round a vessel; but it heals readily, and is reproduced."

I cannot see how M. Burdach can dispose of the difficulty that surrounds his view of the membrane—a tissue, possessed of vital properties, capable of the adhesive inflammation, of healing processes, of being reproduced, &c., while he asserts it to be anhistous or without organization, a mere coagulum! And I am the more surprised because he expressly states, in a subsequent paragraph of this 648th section, that—

"When the blood engages in immediate conflict with the organs in the most delicate vessels admitted within their very substance, it is covered only by this common vascular membrane."

Such also is the opinion of M. Raciborski, in his work on the veins, published in the Trans. of the French Royal Acad. of Medicine. Now it appears to me that, if the vessels have any powers anywhere, except the mere mechanical power of their office as *common carriers*, they must enjoy those powers in the interior of the very substance of the organs; and there, by Mr. B.'s admission, the vessel is only the endangium, and nothing else. An artery and a vein are mere channels—mere carriers from and to the heart. It is the capillary system, that is, the true bloodvessel system, for it is within their domain that are effected all the changes of the blood into solids, and of the solids into fluids. Hence, I cannot agree with M. Burdach. I leave it to you to decide for yourself as to the probable correctness of his view of the case; but, I advise you to read on this head, the work of Raciborski on the veins; a work in which he examines very much at large the history of their nature, uses, and maladies. Raciborski, you will find, also holds that the veins, in penetrating into the most interior structure of organs, carry with them only the endangium, the *membrana communis*, which, if that idea be well founded, is equivalent to asserting that this inner membrane is the essential organ or agent, and that the fibrous and elastic, and other materials of the structure of bloodvessels, are merely the protective investments of the blood-making organ. As for me, I shall continue in the belief that I have long entertained, that the endangium is not only an organ, and a living one, but that it is one of the most susceptible to morbific impressions, and one whose modifications

of health or disease exert the most important and diversified influences on the state of the entire economy.

This blood-membrane, this hemapoietic organ, is interested in all the blood diseases, particularly the pyæmic affections, as well as the hydræmic ones. I doubt not it is one of the prime seats of the pathological lesions in erysipelas and scarlatina. (See my work, entitled *Observations on Certain Disorders of Young Children*, in the chapter on Scarlatina.) It suffers in all the protracted intermittents; it becomes diseased in multitudes of pregnant women; in women during lactation; in men over-fatigued and exhausted with vigils; in the badly fed and badly clothed; in the intemperate; in the broken-hearted, and in all those who are long deprived of solar light in dungeons and mines. It is the sole pathological organ in many samples of frequent deliquium; in many cases of supposed dilatation of the heart, or the large arteries; in neuralgia, and other neuropathic maladies. It is constantly affected in children during dentition, and very often in girls approaching or passing through the puberic crisis, and in such as do not regularly menstruate. Disease, or debility of this membrane, is in most cases, the puberic malady in girls.

It is the chief seat of the pathological deviations in all the cases of what the French call *pâles couleurs*, and which we term green-sickness, or chlorosis. Its continuance is continuance of the malady; its cure is the cure of the patient. If you will read Mr. Hasse's article on Endocarditis, in his *Pathological Anatomy*, you will perceive that this endangium plays an important part in the diseases of the interior of the heart. There is as little difficulty to admit the same power of the very same tissue, whether in the heart, aorta, veins or capillaries, the membrana communis, to exert that influence on the health.

You may remember the occasion on which I spoke at considerable length to the Clinical class, in Nov., 1846, on the case of a pale young woman, who came into the clinic on account of a goitre; and I beg you to allow me here to make for you a memorandum of what was said by me in the clinic on that occasion, and give an explanation of the motives that led me to recommend a particular therapeutical course for her. I think I counted her pulse for you, and found the beats were 75 per minute; her respiration was equable and natural as to its frequency and completeness. Her face of a dead-white or *blanc-mâte* hue. She was not emaciated; her catamenia were suspended.

This was the state of the patient while *sitting at ease* on a chair. But I wished to learn what would be the effect of a slight muscular exertion upon one who, with perfectly sound lungs, ought to be able to make a considerable effort without adding considerably to the number either of

the respirations or the pulsations. In order that a muscle should contract, there must be sent into it a stream of nerve power—call it excito-motor, if you prefer. But that stream is developed in the brain or spinal cord, and the stream will not flow if the source be not supplied. In a sitting posture, the supply was abundantly equal to the demand. But let us see whether she could obtain the supply under strong effort, with the heart and lungs acting at their present rate. I presume she cannot; and my reason for so thinking is this: I find her pulse soft, compressible, large; her skin pale; the rosy tinted mucous membranes of the mouth and throat whitish, bleached; her lungs, on percussion and auscultation, perfectly healthy, and, in fact, while she sits here and has nothing to do, she is well enough; because, with the present rate of her circulation and respiration, there is generated a sufficient amount of nerve-force to innervate all her muscles, and, indeed, all her organs. Were she lying down, the necessity for all muscular exertion being suspended, the supply of innervative power is superabundant, perhaps. How is this nerve-stream produced? Is it not evolved by the action of the blood upon the matter of the brain? I mean, in strictness, the action of oxygen on the matter of the brain. Can black blood, or venous blood, or hydræmic blood, determine in the brain the evolution or extrication of the sufficient nerve-force, the nerve-stream? If you enrich the blood by good diet; if you highly oxygenate it by exercise in the air; if you increase the impetus of it by motion, by champagne, by nitrous oxide gas, by the exciting passions of the mind, do you not increase the energy of the innervative force by sending into the brain larger supplies of oxygen in its vehiculum the blood? But in the present case, if I am correct in supposing this girl's blood to be thin, watery, aqueous, how can she, upon any considerable necessity for extraordinary evolution of nerve power—how can she get at that evolution, sending there, as she now does, a dilute, aqueous, hydræmical fluid instead of the rich stream which circulates in your vascular system.

If she must make the effort, she must apply the material; she must inject the oxygen into the brain: and how? By increasing the rapidity of the injection: how? By doubling or trebling the number of pulsations, and increasing their force.

That immortal physiologist, Xavier Bichat, has set this matter in the clearest light for us. He has shown us that life, in the mammal, consists in a trinitarian power of the brain, the heart, and the lungs. When once endowed with the gift of life, we cannot put it off but at one of the angles of this triangle.

The blood is oxygenated in the lungs, the heart injects it into the brain; the brain, touched by the oxygen, is compelled to send forth

the stream of innervative force to all the organs. If the lung dies, no more oxygen, no more nerve-stream, and the cessation of all motion, which is the consequence, is death. Again, if the heart dies, no more oxygen reaches the brain, whence flows no more the nerve-stream to the lungs; if the brain dies, no more motion, no oxygenation of blood in the lungs, and no motion of the heart to inject it to the brain.

This is Bichat's view. But do you not, under this aspect, perceive that, if the blood in the lungs is not healthful, the oxygenating power will be incompetent, to a certain extent, and the brain, to a certain extent, will fail to radiate its nerve-force to the organs, and so, as to all the consequences of such a dyscrasy of the blood? The pale girl near us has blood incompetent to be endowed perfectly with oxygen. But so much oxygen, so much nerve-force—so little oxygen, so little nerve-force!

In the healthy individual, fourteen or sixteen respirations per minute suffice to oxygenate the blood perfectly; in the unhealthy, there may be required twenty-eight or thirty-two respiratory acts per minute to produce the same result. It is not rare to see the respiration rise to sixty; for without our oxygen we die: and if fifteen breathings will not endow us with enough, we must breathe fifty, sixty, or one hundred and twenty times per minute. Suppose the blood of this patient to be represented by corpuscles 50, albumen 80, fibrin 10, then the water must be 860; but it ought to be 790. Do you think that blood, whose water stands at the figure 860, can carry so much oxygen to the brain as that whose figure is normal, or 790? And, if there be demand for considerable nerve-force, can it, without increase of the pulsations and the respirations, be yielded either to the reflex innervations or to the voluntary ones? Do you not know that, when the ordinary rate of the respiration becomes insufficient, the free will of the patient comes to add the force of its innervative power to the ordinary respiratory innervations, and that an instinctive feeling of the necessity of air compels all the nerves connected with the act of breathing to lend their aid in carrying on that functional act? The medulla oblongata knows the system will die if it redouble not its power and influence.

On the 7th of Dec., 1840, Professor Allison, at a meeting of the Royal Society of Edinburgh, read a paper "On certain physiological inferences which may be drawn from the study of the nerves of the eye-ball." From that paper, *Trans. Royal Soc. of Edin.*, p. 83, vol. xv., I shall quote the following paragraphs:—

"The indirect, and probably modified, influence resulting from volition, and transmitted through the ganglia to the involuntary muscles, and of which we have this unequivocal example in the eye, is in itself,

in all probability, an important part of the design of nature in the construction of the sympathetic nerve and its ganglia.

"I perfectly agree with Müller that it is in this way only that the effect of muscular exercise on the action of the heart, and much of the beneficial strengthening effect of exercise, can be explained."

Let us try the experiment in our case.

Accordingly, the young woman descended the staircase to a lower floor, some twelve or fifteen feet, and then returning on the ascending stairs, came to take her seat again in your presence. Her pulse, when she left the amphitheatre, was at 75, and when she had come up the stairs, after an absence of two minutes, it was 150. The respirations, at 18, had become 36. She was out of breath, and the heart in a state truly deserving to be called palpitation.

As I am desirous to be understood, I am sure you will allow me to give a rationale of this change.

The act of descending the stair was, probably, not accompanied with any, or, if any, with slight augmentation of the heart's frequency, because little muscular effort is required to descend; but the labor of lifting a body in opposition to gravitation is great—*hic labor, hoc opus est*—and the brain could not supply the nerve-force, when stimulated to do so by a hydræmic blood, injected at a moderate rate. The first step in ascension is therefore caused by a great effort of the free will, which is itself a FORCE, and which determines the muscular innervation; but such an exertion of the Free will is consentaneous with augmented evolution of the excito-motory force determined to the heart. The mere intenseness of the effort to rise upon the first step is sufficient to determine an increased activity of the heart's motion, perhaps, upon the principle of the physiological reactions. M. Dessaussure, in his ascent of Mont Blanc, found that, at the height of ten or eleven thousand feet, none of his party could move more than a few feet without panting for breath and being compelled to rest a few moments before renewing the attempt to ascend. Dessaussure and all his men were, though in good health a few hundred feet lower down the mountain, actually in the state, as to respiratory power, in which the anæmic girl is found at the level of the base. That is, the blood, though its crasis was not different on the mountain, could not convey to the brain the necessary quantity of oxygen; for with the barometer at sixteen or eighteen inches, so great is the rarity of the atmosphere that two or three ordinary aspirations of air could not impart so great a quantity of oxygen to the blood as one moderate one would endow it with at the sea-level. My patient, coming from the lower floor, is compelled to breathe fast, and to redouble the systolic efforts; and thus you see is

set on foot a train of innervations of the locomotive muscles and of the heart's muscles commensurate with each other and commensurate with the wants of the occasion. Her state at this level is precisely like that of Dessaussure at an elevation of eleven thousand feet on Mont Blanc.

By the time the young woman had regained her seat, the heart, the brain, and the lungs were all in a fury of excitement, which soon subsided, as it always does, upon a cessation of the effort. Here, then, is a case, in which the organs are imperfectly innervated while the patient is in the act of taking exercise, from want of power to supply the brain with the normal quantity of oxygenated blood. The Dessaussure party presented the same phenomena, merely because they were breathing a rarefied air: they were not diseased. The girl who manifests the same phenomena is diseased; she has too little oxygen; and the disease is debility of her endangium. I do not say, endangitis or phlebitis, but loss of tone of her blood-membrane. What is the indication? To restore the tone to her blood-membrane. If you can effect that, her cerebro-spinal axis will innervate all her organs healthfully—and she will be restored to health.

I hope that you now understand my meaning on this subject; if you do understand me, it is because I have been enabled to explain a meaning that I myself understand; if you do not, I have reason to fear that my own views are confused, unclear, indeterminate. Be that as it may, it is very certain that, for some years past, I have acted under these views, in my therapeutical prescriptions, for a great number of such cases; and that, with a result so satisfactory, both to the patient and to myself, as to confirm me in the validity of the theory or rationale under which I make choice of the remedies for the case: the prime indication being to cure the membrana vasorum interna, the endangium, the lining membrane of the bloodvessel—the BLOOD-MEMBRANE.

Let us now return to the consideration of the girl approaching to her puberic age.

She is turning from childhood into the new paths opened for her career. Her bones are to become solidified and expanded in their dimensions. The little hipless creature that you leave at home in January as a child is found, when you return in November, to have been changed into a woman. The great broad haunch bones are already formed, and in so short a time. The epiphyses are consolidated and indissolubly attached; the marks and traces of distinction in the pieces of the sacrum and the coxalia are all gone; for the pelvis has been prepared during your absence to bear the weight and the strain of gestation and labor. The organs within have acquired the consistency, and the forms, and the capacities requisite to enable them to fulfil their great

destiny and office. The stature has increased; the round and swelling limbs and the panting bosom have taken the place of that angular, and lean and awkward form that you left behind at your departure, and the whole creature, as to her *physique* and her *morale*, has been transmuted as by the stroke of a magician's wand. Does this cost nothing of life-force, life-effort, life-expenditure? Is not this great and sudden transformation and loss a stage of crisis and danger? Do you not perceive how needful it is to watch over and provide against the assaults of disease for the young girl?—how her alimentation should be sustained by food, by the stimulation of insolation, of the open air, and the habituation to exercise, which is the absolute requisite of a perfect nervous induction.

Suppose she be badly managed, and, feeling badly, as often she does, she is indulged in a lounging life at home, with the imagination on the rack of some passionate novel, and the digestion on the rack with cates and comfits, and every trashy aliment which her pica and malacia could prompt her to indulge in. But this is not all: the young lady must be educated; she must learn astronomy, God wot! and algebra! she *must* speak French and Italian, at least; it is imperative for her to have *studied* Latin, and geography, and rhetoric, and history, and natural history and chemistry, and music of the piano the harp and the guitar, and drawing and embroidery, and dancing; but she cannot make puddings, nor milk the cows, nor confect an apple pie, nor sew, nor knit, nor spin, for her destiny is to rival the lilies of the valley. Behold them! They toil not—neither do they spin—yet Solomon, in all his glory, is not arrayed like one of them. But they are truly the she lilies of the world—pale, feeble, flitting, and not living through life. See how a strong-minded, well-educated woman deems of them:—

"It would seem," says she, "as if the primeval curse which has written the doom of pain and sorrow on one period of a young mother's life in this country, had been extended over all; so that the hour seldom arrives that 'she forgetteth her sorrow, for joy that a man child is born into the world.' Many a mother will testify, with shuddering, that the most exquisite sufferings she ever endured were not those appointed by Nature, but those which, for week after week, have worn down health and spirits, when nourishing her child. And medical men teach us that this, in most cases, results from a debility of the constitution consequent on mismanagement of early life. And so frequent and so mournful are these and the other distresses that result from the delicacy of the female constitution, that the writer has repeatedly heard mothers say, that they had wept tears of bitterness over their infant daughters at the thought of the sufferings they were destined to under-

go. A perfectly healthy woman, especially a perfectly healthy mother, is so unfrequent, in some of the wealthier classes, that those who are so may be regarded as the exceptions, and not as the general rule."

Such is the language of Catharine E. Beecher, and I wish you would all read it, and the rest of her wise and common sense, and yet womanly observations, in her delightful *Treatise on Domestic Economy*. You will find the above passages at pages 42–43.

If a girl grow up like a pine knot, she can't be hurt—you may do what you please—she is too tough and strong to be hurt by any educational process. But if she be truly a lily—lily white in her complexion—tender and trembling in her feebleness, like the flower on its stem—what hope have you to be able, in the binary consumption of the thought-power and the development-power (both coming from the same encephalon), to carry her securely through the dangerous way in which her puberic age must walk?

The girl has need to grow and become of full size and strength; but, if you send her to the boarding-school, and place her on the school-form, and put before her some dull and unintelligible gallimatias of grammar or mathematics; if you compel her to commit to memory *mille versus stans uno in pede*, how can she be expected to preserve her health and attain to those important developments?

There is a passage in Raciborski's pretty work, *De la Puberté*, &c., at page 44, which concurs with my own observation and experience as to the influence of studies on the young girl.

"I learn from a physician attached to one of the largest boarding-schools in Paris, that the young ladies of the establishment are, for the most part, very tardy in making their change; and that, when they have become catamenial, the menstrua are often very irregular." M. Raciborski adds that "the physician could not well account for this peculiarity otherwise than by referring it to the nature of the diet, which, he thinks, is not sufficiently tonic. When these young ladies go home to their parents during the vacations, and remain there a short time, the catamenia become very regular, but are deranged again soon after their return to school."

I have attended at different times in some of the boarding-schools in Philadelphia, and I have never attributed the failure of menstruation to any dietetic cause, because young ladies are well fed in those establishments. Yet, I assure you that it is very common for me to find young women who have grown up admirably, and have turned through the straits of the puberic age in perfect safety and with complete success, to lose, in five or six weeks, the habit of menstruation, upon being brought to town, and set on the school-form and compelled to undergo

the fatiguing labor of mental and educational discipline and culture. Such a patient is too busy with the mind to attend to the body—the confinement, the study, the devotion of innervative power to thinking in one train of thought, interfere with the healthful innervation of the muscles, the skin, and the alimentary apparatus; the biliary organs give way, the kidneys fail to cast out the nitrogenous surplusage of the economy, and the whole mass of the blood loses its fine and delicate crasis, while the endangium itself loses the power to keep up the constitution of the blood to its normal standard.

In this condition of the whole system, where the organs have lost that harmony of life that is essential to the well performance of all the functions of life, there is no need for us to be surprised if certain of the offices of the economy, those exquisite deuto-biological offices, that rest like the topmost stone on the summit of the pyramid, should first fail to be manifested, or that they should be among the first to disappear where they have been once already made manifest.

Indeed, almost the first perceptible change in the health of the female is the disappearance of the catamenial force.

Do you not remember that, while I was discussing this subject in the lecture-room, I said that life in the general might be likened to a rocket? The flashing train rises out of the thick darkness of night, and, glowing more and more the higher it rises towards the heavens, gives out, at length, when at its highest point of ascension, the last brilliant flash that fills the whole air with sparkling diamonds of light—the most perfect part of the exhibition: so in the female—the life has reached its high ascension when, at its culminating point, these sur-vital manifestations are beheld.

But a woman in health will menstruate: therefore, when a woman does not suffer her regular monthly evacuation, it is because she is not in health. There is want of harmony somewhere in the play of the organs. She, in general, does not become sick because she does not menstruate, but she ceases to menstruate because she has fallen sick. To make her become regular again, it is only necessary to restore her health—for she is a menstruous creature, and will always fulfil her natural law if something does not prevent her by acting upon her constitutional health injuriously, and so prevent that constitutional force from developing all the antecedents of the visible signs of the mensual office.

This is true of woman in general, but I deny not that the first blow may be struck at her health by suppressing her catamenia. Yet, I think, this is a rare case. Certainly it is a rare case, as far as my opportunity for observation has enabled me to judge of it.

For example, I have known many to lose their catamenia by severe application of the mind to studies; many to lose it in consequence of catarrhs, fevers, consumptions, &c. &c. It is true, also, that I have many times been consulted on account of a suppression of the evacuation from cold, and from other slight causes. Yet, out of the vast majority of these last-named cases, there have been very few who had any lasting trouble from the suppression; inasmuch as the next operation of the periodical cause being perfect, the evacuation has been regularly restored.

It is easy for you to understand, however, why it sometimes happens that a sudden suppression of the menstrual flow, in mild cases, or at the very commencement, or in the case when a suppressing cause has been applied just before the apparition, should lead to a long train of morbid actions. Here is a case in point.

A young lady, in consummate health, wished to go to a ball. But, unfortunately, in the afternoon, before the time for dressing arrived, she was seized with her courses, which were generally profuse; and she began to fret at the occurrence, as she was afraid to appear at the gay scene of the dance, situated as she was. Her nurse, an old and confidential servant, much attached to her, said, in order to quiet her grief —"My dear, if you won't tell on me, I will arrange it so that you *shall* go to the ball." "Oh! dear nurse, do, and I'll love you forever." The nurse brought a large tub full of fresh cold water, and bade the blooming girl sit in it. She did so; the menstrua disappeared. She *went* to the ball; came home before the end with a blinding headache; was attacked with a brain fever; lost her bloom, and her embonpoint; and now, at the age of near fifty years, still feels the miserable effects of such a scandalous dereliction on the part of the favorite and confidential servant.

The uterus and the ovaria, and all the branches of the hypogastric, the sciatic, and the ovaric arteries, were full—it was full tide with all that system of vessels—the accompanying nerves were all ripe and rife with the periodical excitement. The cold hip-bath produced instantly a spasmodic closure of the excreting orifices in the womb, and the uterus and ovaria became instantly the seats, not of an out-flowing affluxion, but of intense engorgement, which, reacting as a disturbing force upon the cerebro-spinal system, laid at once the train for years of ill health. That lady's whole life was rendered a scene of bitterness—of vapors and caprices—by that single hip-bath; it shocked her nervous system ruinously.

Many women, who were in the full flow, have sent for me, to say the flow had suddenly ceased from wet feet, from cold drink, from cold

bathing, from pathema mentis, &c. &c. I have found them in agonizing headache, neckache, backache, nausea, *courbatisme*, throbbing pulses, and the most exaggerated calorific power.

Such cases do not excite in my mind any solicitude for the safety of the patient. A venesection, an aperient emollient enema, a dose of castor oil, some camphor and opium made into pills; these are usually followed by remission of the distress. The constitution is again brought into obedience to the laws of healthy innervation. The next Graafian follicle fills, rises to the surface, bursts, and the mensual hemorrhage goes on, at the due point of time, as if nothing had interrupted for a moment the regular play of the functions. So often have I found this representation of the case to be carried out in the action of the organisms, that I fear not to allay the alarms and misgivings that arise in the mind of the patient, or her friends, with assurances that nothing is to be apprehended from such incidents in the health.

Nevertheless, interruptions of the monthly efflux, produced suddenly, as above supposed, may leave the whole reproductive apparatus engorged, and even subacutely inflamed. The currents introduced into them by the spermatic and uterine arteries, and the branches of the ischiatic; and the nerve streams that accompany all these vessels as their regents and moderators—these are disordered in their very structure, crasis, and chemical constitution, and the next period of elimination may fail because the ovarian stroma is become unhealthy. But this ovarian stroma—this vitelliferous, and therein germiferous, organ, whose importance I proclaimed in my second letter, has now become a disturber of the constitution. Its nervous connection and relation to all the plexuses and nerves of the whole splanchnic system enable it to call them into sympathizing disturbance, and the health is overthrown. The emulgent artery, the cœliac, the mesenterics, and all the concomitant cortege of nerves are disordered, and now we have disordered renal action. The vast portal system no longer plays its healthful part in the eliminations for which it is provided and appointed. Emaciation, opaque skin, dyscrasia of the blood, palpitation and irregular action of the heart, with consequent morbid states of the innervations, proceed from bad to worse, and we behold the victim of a checked menstruation laboring under all the complications expressed in the term chlorosis, or green sickness. But if all this may come from a check of an established menstrua, *à fortiori*, it may accompany a hindered or prevented one.

If the mass of the blood becomes affected with dyscrasia, from whatever cause, we have at once a diminished power of the nervous system, whose force, whose product (the neurosity), is the result of the contact of oxygen with the matter of the brain. I have not forgotten that,

though neurine and oxygen give out neurosity, there may be qualitative differences in the neurine, and quantitative differences in the oxygen; that a brain and nervous system may be good or bad, healthy or sickly, vigorous or feeble; yet that all these differences may, to a certain extent, depend upon the qualities of the blood, its capacity for oxygen, or for heat, its pressure, its momentum. The nervous system, though it be the essential Ens, is produced from the blood, out of which all the solids of the body are made and constituted into organs.

I have no doubt the brain itself is frequently altered in its density, in its perceptivity, and its power to extricate neurosity for the innervative acts of the economy; in some cases acquiring a double portion of such faculties, and in others nearly losing them. When lost, it is death. There is a hyperneuric as well as a hyponeuric health, as stated by Dr. Cerise.

Since the introduction of the process of etherization, in surgery, we see abundant examples of the modification of the powers of the brain and nervous system made by that agent. M. Flourens has shown that inhalation of ether, to a certain amount, suspends first the action of the hemispheres, next that of the spinal marrow, next the quadrigeminal tubercles, then the cerebellar lobes, the spinal marrow, and lastly, the medulla oblongata, which last he regards as the *nœud-vital.* As long as the *nœud-vital* remains unaffected by the ether, respiration goes on, and the other parts of the brain may recover; because the *nœud-vital*, being the seat of the respiratory power, can compel the oxygen of the air to enter into the blood, and arouse the rest of the cerebro-spinal axis from the insensibility into which the ether may have plunged it. If the *nœud-vital* becomes *engourdi*, respiration or oxygenation of the brain ceases, and the animal is dead. You see, then, that, you can in a moment render the brain hyponeuric by ether, as you can also render it hyperneuric by champagne or nitrous oxide.

I have no inclination, and, indeed, it would be out of place in this letter, to enter largely into explanation of the state of the system in chlorosis. Chlorosis is often something more than anæmia; it is often glandular disease—and is connected with various states of hepatic and intestinal disease. What I have said, I have said with the design of inviting you to reflect upon this important question, viz: What are the evils to be feared from a puberty imperfectly effected and ignorantly conducted? My representations above ought, I think, to show you that the puberic age is one that deserves to be carefully watched and wisely treated, for certainly, in this country at least, too little regard is paid to the dangers of the crisis; and when the threatening consequences of mismanagement or misapprehension have become startling, those

fatal mutations are attributed to some trivial cause, and the victim passes away to the sound of the passing bell, and no increase of knowledge, acquired by such a mournful experience, stands in the way of the next victim to a management as unwise and as thoughtless.

I find that I have, in my letter on puberty in girls, lapsed into a discussion of some points of the doctrine of menstruation, in which I have anticipated observations more appropriate, perhaps, to that special topic; but puberty in girls, after all, has reference chiefly to the establishment of the menstrual office, and I could not well avoid falling into such a train of thought. I wished to show you that, if you do not take wise care of the health of the growing females of a family committed to your care, as physicians, you will have the pain to witness their early subjection to dangerous and fatal disorders; or else to see them, even after the puberic phenomena shall have been all made manifest, and the age of puberty indeed past, suffering those derangements of the health which serve to render them useless to their friends, inefficient as the heads of families, and unfit to encounter and discharge the stern obligations and duties of life. Many are the examples I could cite from my memory of persons who, even after being married for years, and after having been regularly menstrual, still continued to labor under the effects of a badly passed puberty; showing these effects in an over-excitable circulation, excessive nervous susceptibility, dysmenorrhœa—though regularly menstrual—sterility, and the impatience and discontent that necessarily wait on feeble health and disappointed expectations; some, recovering completely under a careful treatment; and others falling into weakness, and becoming, at last, victims of consumption, menorrhagia, or other disorders of which the foundations had been laid in an improperly conducted physical and moral education.

As to our own fair countrywomen, I think it is true that, as a general rule, the women of the United States break very early. I appeal to your own observation for support of this assertion. A lady here, with two or three children, is generally without color—pale—fatigued, and attenuated. Perhaps this early break-up of the constitutional force of females may be, in part, attributed to the nature of our climate, which, from the violent and rapid revulsions of its temperature moisture and pressure, as well as from the intense force of its light in summer, is more exhausting to the life-powers than the cooler and more steady skies of Europe, where women certainly preserve their youthful appearance to a later period than here. Those of you who reside in the Southern States, will have observed the very striking difference between the appearance of persons who have spent the summer in the North, and those who have waited during the hot months, in Georgia,

Alabama, and the other southerly regions of the United States. Having spent the early part of my life in the South, I was accustomed to see my friends and acquaintances return from the North, at the close of the hot season, looking ruddy and healthy in comparison with the fatigued and exhausted aspect of those who had drawn out the long summer season at home—and I am sure that no one can arrive even in our northern ports in August and September, from a trip across the Atlantic, without being struck, and even painfully struck with the air of ill health that is visible in the faces of the crowds on the wharves and streets of places so far to the north as New York, and even Boston. The cold weather of winter and spring restores to them the hues of ruddy health, in order that by the close of the ensuing hot season everybody may be again *pulled down*, to use an expression much in vogue in our country.

The western coasts of Europe do not possess such brilliant skies as ours. The veil of mist or cloud from the Atlantic, that is almost always spread over their heads, prevents the excessive radiation of solar light and heat, and the powers of the body are, consequently, not exhausted by over-stimulation from these causes, as is exhibited in the hurried pulse, the profuse diaphoresis, and the almost universal bilious or sallow hue, acquired by the complexion on this side.

If I am not incorrect in attributing to the brilliant skies of the United States morbific powers of a most inconvenient kind, then I am surely correct in the opinion that young girls, approaching and passing through the puberic crisis, ought not to be incautiously exposed to those influences. I speak only of those whose condition may seem to require your counsel, and not at all of those (the infinite majority) hardy and healthful people who never give cause for apprehension as to their sanatary condition.

Your delicate patient requires light as one of the conditions of health, but not too much light. I have already, in my putative conversation with Miss Helen Blanque, in my XII. Letter, expressed my opinions as to the necessity of light as a condition of healthful life, and I have no reason to distrust the sentiments therein expressed. But an incautious exposure during the summer heats is exceedingly enervating. Such exposure excites the movement of the blood, and augments too considerably the calorific power of the lungs. It produces a quasi feverish state of the body, which is only kept down by copious perspirations, that exhaust the activity of the cutaneous capillaries and nerves, and introduce derangements of the secretions that depend on the termini of the great splanchnic or digestive vessels of the abdomen. All those secretions are effected at the expense of the

cœliac and the two mesenteric arteries and their termini, and it is undeniable that the sanguine circulation in those vessels and the portæ has a close connection with and dependence on the cutaneous organ.

Do I recommend that the young girl, at the season of puberty, should lead an idle and inactive life? Far from me the thought! I repeat that I think every such person should be exercising in the open air, to the extent of walking many miles daily. But from the 20th May until the autumnal equinox, that exercise cannot be well taken later than nine o'clock in the morning, and at evening hours when the sun has descended so near the horizon as to lose the power of a too violent radiation.

There is freshness, as well as humidity and coolness, in the early morning air, that imparts greater vigor to the constitution than that of later hours. Early rising and early walking, then, ought to be recommended to all such persons as are directed in a course of training for health.

But early rising is unendurable except for those who retire early to rest. They go hand in hand with each other.

The young girl should be at rest before ten o'clock at night; then at five o'clock in the morning, she will be fitted for a walk of two or three miles; it is easy to walk three and a half to four miles an hour. Such a walk in the early morning air, after eating a biscuit and drinking a glass of water, would give appetite for breakfast and power for its digestion. A walk of three or four miles in the evening, before and after sunset, would furnish the requisite amount of out-door exercise, say seven or eight miles a day. An amount far, I fear, beyond that taken habitually by the young portion of the sex in the United States.

I am much accustomed to make inquiries on this head; and I lament to learn, as I often do, that young persons of the class under consideration frequently pass many consecutive days without walking a mile per diem in the streets, or roads, and paths in the country; and even without going out of the house.

Physicians are the health officers of society. I would that physicians, as a body, were awake to the importance of so guiding the public mind on all topics connected with the conservation of health, as to exert the whole influence of the profession, a great influence, in impressing upon the public mind clear and sound notions in regard to those hygienic uses and appliances which the public either know not, or overlook, perhaps, in the hurry and cares and embarrassments of the business and occupations of the world.

It appears to me that common sense and daily observation ought to teach the necessity of exercise as a means of preserving the health of

man, since in a natural state he is compelled to do so. The social condition of man has in some degree lessened this necessity; for by nature he was doomed in the sweat of his brow to eat bread. Society has enabled him to eat bread without perspiring for it, and the luxurious and effeminate manners of the times seem likely to grow more and more Sybaritic under the labor-saving results of the improved machinery of these modern days.

A physician ought to exert the intellectual power which, by his position in society he is presumed to possess, in protecting society against the evils of ignorance on hygienic subjects. Forty thousand medical men in the United States should not always allow their day and generation to pass away without leaving some signs of progress and effecting some amelioration of the condition of society, beyond the mere restorative results of their therapeutical prescriptions. I fear that so much intelligence, so much power is nearly restricted in its beneficence to the cure of the sick alone; whereas, it ought to be capable, not only of preventing the onset of many diseases, but also of greatly lessening the violence of the cases. Have we not reason to be ashamed that *our* profession has not advanced one step, in a progress towards the public approbation and confidence, since the Revolution of 1776? It is to be doubted whether there is not more quackery in the United States, and in Europe also, than there was two centuries ago. We the true custodians of our Guild, how have we guarded it? It is filled with hydropaths and homœopaths, until the people can make no distinction of Doctors. Will it be ever so! You who are young, and who ought therefore to be both ingenuous and generous, will you not do something to place *our* vocation in the clear light and just confidence of which we know it to be worthy? See to it then that your generation shall not pass away without leaving some *mark* upon society. If nothing else, strive at least to make the people see and know that, as a class, we are, in the main, the most educated, moral, and dependable men of the age.

In the conduct of those cases where doubts as to the successful effectuation of the change into menstrual life may cause you to be consulted, I trust that you will never confine your attentions to the mere point of compelling the young person to have a *show*. Indeed, if you take up just views of the nature of the catamenial office, I am persuaded you will not do so; since you will know that, if she produces and evolves germs, the girl will menstruate; while, if she does not produce them, you cannot cause her to menstruate. You can make her bleed, perhaps; nay, you can, very certainly, make her bleed by leeches, with cups, or with the lancet; but every tyro knows that to bleed a woman

every twenty-eighth day is not to satisfy the physiological demands of nature in menstruation; because nature does not require merely the loss of so many drachms or ounces of blood, but she does require that the important organs should all enjoy the power of exercising the functions appurtenant to their several natures. When they do so, the economy is healthy; when they fail therein, it is sickly. A woman has the *show* solely because she is ovulating. It is a small matter whether she have the show or not, provided she ovulate properly, for that is the thing; and I assure you I have met with several instances of women who had no womb at all, not the least, yet they were very healthy, very pretty, very strong and ruddy-looking women. They had all the signs of a *pubertas plena*, except the *show*. You cannot doubt that these women, whose passions were remarkably strong, did ovulate as regularly as any women. They never had nor required to have any vicarious excretion, and to ovulate, was for them to fulfil the menstrual act.

The prime interest in the conduct of the case is, first, to explore and understand its nature and all its peculiarities and wants. This seems to me by no means a difficult task, provided one goes the right way about it. For example, suppose a young person presented to you for examination, and that you proceed in manner as follows, by question and answer:—

"What is your age, child?"

"Fifteen years, sir."

"Are you sick?"

"No, sir. They say I'm sick, but I don't feel so!"

"Have you ever been sick?"

"Yes, I had measles, and scarlet fever, and whooping-cough; but that was a long time ago. I have also had some bad colds, occasionally."

"Do you feel strong and healthy?"

"No, not very; but I'm not sick though."

"Are you as fat as ever you were; or are you thinner than you used to be?"

"Why, I am thinner, I suppose; but not much."

"Do you go to school?"

"Oh, yes, I go to ——— ———'s school."

"When does school let in?"

"Eight o'clock in the morning."

"How long before it lets out?"

"Half-past one."

"That's five hours—a long session! but what are you doing all that time?"

"I am studying my lessons and reciting them."

"What lessons? What is your daily work in school? Tell me all about it. Tell me the whole course of a day's schooling."

"Why, when we assemble, we have prayers, then a chapter in the Bible, then a hymn, and close with a short prayer; after which I recite my lesson in spelling, then English grammar, and next, one in geography."

"Why, when do you get all these lessons?"

"In the evenings, at home."

"Do they keep you late up?"

"Until nine or ten o'clock, only."

"Well, what comes after geography?"

"Oh! I write copies, and then study my Latin grammar. When I've got the lesson, I conjugate the verb, and decline a few nouns and recite some rules."

"What next?"

"I study fifteen or twenty lines in Virgil, which I construe for the teacher."

"Does he make you parse it and scan it?"

"Oh yes, sir, to be sure; always."

"Have you any other studies?"

"Yes, sir, French."

"And you commit to memory in French, too?"

"Yes, and read, and translate, and write exercises."

"Anything more?"

"Algebra."

"What, algebra? Oh!"

"Oh yes, sir! And then we have lessons in drawing."

"What do you draw?"

"Landscapes, maps, &c. &c., as figures, flowers, and what not."

"Any music?"

"I have a lesson on the piano three times a week; but mother makes me practice two hours every day; one before I go to school, and one in the evening."

"My poor child, I am sorry for you."

"Why are you sorry for me, doctor?"

"I am sorry to find that you work so hard."

"Oh no, sir, I am delighted with it."

"No doubt! no doubt! but it will ruin you. I don't believe there is anything the matter with you now but schooling. Bless your dear

little heart, you ought to be chasing butterflies, or training flowers, or weaving them into pretty coronals, such as white morning glories, pale as yourself, would make; or you should be dressing dolls, or galloping the pony, or dancing, or dawdling. You must not do so much work at school, my poor little thing, and you shall not, if I can prevent it. But come, tell me about your health. Do you walk out to the Schuylkill every day? or as far as the College?"

"Oh no, I've no time! Didn't I tell you I go to school at eight o'clock and come out at one? And then I have two hours in school, afternoons."

"The d—l you have!"

"What did you say, doctor?"

"Nothing, only an ejaculation; from a sudden pain I had. When do you get to bed, my dear?"

"About ten o'clock, or soon after ten."

"Do you sleep soundly?"

"Not always; I often get frightened in my sleep with what they call nightmare."

"I don't wonder at it. I should think your poor little head would be too tired to sleep soundly; and that you would have a nightmare in the shape of a monstrous folio grammar, or dictionary, sitting up on its hind legs, just like a great big kangaroo with a pair of spectacles as big as two moons on its nose, staring at you from a pair of dead-looking eyes."

Why, what a notion, doctor!"

"Notion! I'm sure so many books are enough to make you dream, and spoil even your appetite by disturbing your sleep. Do you eat hearty breakfasts?"

"No, doctor; I have but little appetite for breakfast. I take some cold water and a slice of bread and butter, and after my piano practice, make haste to school; for I am so tired in the morning that I can hardly get up, and that keeps me late."

"How's your dinner?"

"Oh, I like pies and preserves, but I can't bear meat; and as for soup, I hate it."

"Oh, dear! poor child! Alas for you, you poor little thing! Those pies and preserves! Do you remember Queen Mab who drives over ladies' lips?—

> "Which oft the angry Mab with blisters plagues,
> Because their breaths with sweetmeats tainted are."

Come here; sit by me, and let me feel your pulse. Don't be frightened. There, now. Your pulse beats eighty times a minute; and you are

fifteen years old, you said. You are breathing twenty times a minute. Are you oppressed in breathing?"

"What do you mean, doctor?"

"I mean to ask if you can draw a great long breath. So—try it now."

"Why, it hurts me."

"Where does it hurt you?"

"Nowhere in particular; it is rather disagreeable than painful.—It seems like weakness and a tired feeling."

"It does not make you cough, does it?"

"No, doctor."

"Have you headache often?"

"Oh yes, my head always aches when I wake in the morning; and if I run or skip the rope, it aches and swims, and beats dreadfully."

"I should think so. When a body is pale like you, any exercise makes the head beat and ache. Do you remember ever to have had red cheeks?"

"Oh yes, doctor. My cheeks, when I was ten years old, were red as the inside of a conch-shell."

"Have you grown much of late?"

"Oh, monstrously; I have grown half a head taller in eighteen months."

"Where's your mamma?"

"She's up stairs."

"Go, call her to me. You need not come back yourself. I shall send for you if I want to see you again."

"Pray, madam," said I to Mrs. ——, when she came into the parlor, "what do you suppose ails Miss Mary?"

"I can't imagine what it is that has changed her so, doctor. She used to be the healthiest child in the house; merry as a grig, always singing and dancing; but now she is dull and moping, and has grown pale and thin, and has no natural relish for food. I suppose it is a change working in her. Dont you think so, doctor? She is fifteen!"

"I cannot tell. It is probable that her constitution is making an effort in that way; but I wished to ask you some questions that I did not like to address to the child herself. Can you tell me what is the state of her digestion?"

"As to that she is very irregular; sometimes costive, and then again very much the reverse, and that without any evident cause for it. I suppose it may be owing to her living, for I can't get her to eat any

good food. She likes nothing but cakes and sweetmeats, candies, and all such trashy stuff."

"Is there any change in her temper?"

"Yes, doctor. She is more irritable and cross than is her nature to be, and she is easily put out; the least thing makes her cry.—Indeed, we find her very much changed of late."

"She has never been unwell yet, I suppose."

"Once, about four months ago, her nurse told me she had seen a very slight mark of change, but it was merely *pour marquer*, not anything of consequence, and has not returned since. We are very much concerned about her, for we find she is growing pale, thin, and lounging; she cannot be persuaded to walk out, nor does she like to go out in the carriage. Nothing pleases her so much as books. If you give her a book and a sofa, she is perfectly satisfied. But I fear she reads too much, and that her lessons are exhausting her."

"My dear madam, I think if I might venture to speak Latin, I should say *rem acu tetigisti*—you have hit the nail on the head; and I am much afraid you will destroy her health unless you make some change in her mode of education."

"But, doctor, that is very difficult. You know that schools are managed by classes, and that we must educate our daughters; they must be with their classes, you know. They cannot be always put back; it disheartens them. What is one to do in such a case? You wouldn't have her brought up in ignorance, would you?"

"No, certainly, not in ignorance; but I should much prefer to have a daughter healthy, sweet-tempered, sensible, and beautiful, without Latin, and algebra, and grammar, than to have one ever so advanced in her humanities, with her health ruined, or, perhaps, lying under a marble urn at Laurel Hill."

"Why, doctor, you shock me!"

"I intend to shock you, madam! I know what love you bear to this dear child. I am aware that her great beauty and intelligence, and sweetness of temper, render her not only your admiration, but that also of all your friends; and I am grieved to see that, in the impetuous hurry and press of her intellectual and moral education, you have wholly lost sight of a part of her bringing up, without which the others are of no value, of no effect, but rather poisons, that destroy. I wish to shock you; I wish you to learn that, unless you change the treatment, you will lose her. She will die, madam!"

"Are you serious, sir?"

"Serious, dear madam? Serious! I am more than serious; I am grieved. I saw a sweet creature within a year, an only daughter, an

only child, indeed, worth to her parents more than a chrysolite as big as herself, done to death by mere schooling. Why, can you not perceive that, if this child of yours had nothing to do but grow and enjoy herself, she would be as beautiful as a houri, instead of breaking one's heart, as she does now, with that painful conviction of uncertain health, that inseparably attends a look at her?"

"What are we to do then, sir?"

"Do! dear madam? What are you to do? Why, educate her as a sensible woman would educate her daughter."

"But everybody insists on her learning all these things! All the girls learn Latin now."

"Not at all; not at all, madam! Catharine Beecher does not think so; and she, thank God, is a sensible woman. I hope you will admit that of her. She says, 'It is a well-known fact that mental excitement tends to weaken the physical system, unless it is counterbalanced by a corresponding increase of exercise and fresh air. Young girls, in pursuing an education, have ten times greater an amount of intellectual taxation demanded than was ever before exacted.' But I will not stop to quote Miss Beecher any further. I will beg you to buy her book, and not only read it yourself, but make Mary read it; for it is full of salutary, every-day truths. All the girls do not learn Latin now, as you said; and I tell you that to rack her little brain learning Latin is nonsense. She can't learn it, in the first place. She can only try till it makes her sick, and then she'll give it up. Tell me, now, who of all the women in America or England have *learned* Latin! Nobody. Madam Dacier learned Latin, I grant you, and so did some eminent English ladies of the sixteenth century; but they would have been much better employed learning to make puddings and keep house."

"Ah, doctor! that's the way you men all talk; you think that women are inferior creatures, and that they cannot learn what is deemed very essential to the education of every gentleman."

"Far from it. Instead of thinking that women are inferior creatures, I for one look upon them as infinitely superior, in many respects of their understanding, and altogether in morals, to men. But their lot is cast for them; men did not make it; God made it. They cannot, in the present state of the world, and probably never will, participate in the affairs of nations or municipalities; because, by the very nature of their moral and physical constitutions, they are bound to the horns of the family altar. If they let go; if they flee from their refuge, they soon become captive to some tipstaff of an Asmodeus or other evil spirits, who, like constables and thieftakers from the lower world, are wandering up and down in the earth, seeking whom they may devour

among unemployed ladies. I do not believe that women are inferior beings. I regard them, on the contrary, as the ministering angels of the race; as the source of happiness and virtue, as well as its reward. But, in order to be educated, it is surely not necessary to have a smattering of Latin and Greek. What is it to Mary that Horace or Virgil wrote their verses, or Tacitus his annals, or Terence his Comedies? She can read Pliny's letters better in Melmoth than in Pliny, for Melmoth is a better writer than his author; and as for Tacitus and Virgil, Davidson and Murphy will not rack her brain like the *Arma virum-que cano*, or the *Urbem Romam à principiô reges habuêre.* Mary wants to grow—she wants to grow up to be a woman—not to peer into the amatory elegies of Tibullus and Catullus, or pry into the detestable stories of Apuleius the Madauran. What does she want with algebra? Shall she rival Leverrier or Arago? The only arithmetical calculation she requires is the market relation between one dozen eggs at twelve and a half cents, and three dozen eggs at the same rate; and the unknown quantity she ought to look for is, the proper gentleman, whom the fates and sisters three have in store for her as her future lover. Ah, madam, the ancient literature was much of it lost at Alexandria, and if that blessed St. Omar, who burned it nearly all up, had been lucky enough to get all the Latin school books into the bargain under the baths—I can't say I should be glad for my own particular sake, for I should not; but I am very sure the whole rising generation would be glad to contribute all their coppers and ten cent pieces to make a statue for the shrewd Caliph. The labor of life is a great labor and a long, but there is no toil like that of an overtasked schoolboy or schoolgirl. As for your child, it is true she ought to be educated; but let her education fit her for her duties in life, not destroy her health and beauty. Lady Jane Grey and Queen Elizabeth could read Latin, but they had a different destiny from that of a republican's daughter. Let those who are likely to use to advantage the more elaborate parts of early instruction, let them have it, but do not kill them to get it. Ignorance is always to be eschewed; but if I was destined to be a doctor, what use was there in making me study logarithms or lunar distances, or compute the orbit of a comet? I was brought up to my trade—let Mary be brought up to her trade. What is that? It is taking care of a family—wisely, happily, elegantly, with a good temper; to do that, let her learn the world and the ways of it—not too much, though. Educate her in truth and the love of it—in piety, which is the best grace of the sex. Teach her administration—domestic administration. Teach her to have a place for everything—and to put everything in its place.

Make her an economist—not a miser. Teach her to be saving. Do not impress upon her the scoundrel maxim, as Thompson calls it,

> 'A penny saved is a penny got;
> Till from her board it drives both plate and pot.'

Teach her the great virtues, cleanliness and tidiness; improve her natural propensity to adorn her person, under subjection to the *simplex munditiis* rule. Let her make herself beautiful and pleasing. Of all things let her be charitable and kind—for charity overcometh all things. Mr. Clay, Mr. Webster, Colonel Benton, and Mr. Calhoun will take care of the politics; General Scott and General Taylor will take care of the soldiers; let the daughters take care of the children, and learn to be bright at the breakfast table, elegant at dinner, enchanting as pourers out of tea, and the ornaments and grace of the saloon."

"Ah, doctor! I see how it is; you pretend to be a great admirer of the sex—but, like all the rest, you would condemn them to an inferior place."

"I!—I condemn them to a lower grade of rank in the body social? Not I. I am a convert to Burdach's views. I see in them *the* race, and we men but the supplements. They are the queens in the hive—we but a sort of mixed medley of drone and worker. It is far more noble, in my opinion, and far more elevated, to shed the benign influences that ever flow from the reign and dominion of a fine woman over the family and throughout the circle of society to which they extend, than to shatter men, women, and children, and churches, by 'shelling' out the enemy at Vera Cruz, or giving them 'a little more grape' at Buena Vista. No, madam, I do not disparage the sex by confining them to their domestic duties, but I rather magnify them and make them honorable. But let us change the subject, or rather let us return to our subject, which is Miss Mary's health, and the conduct of it."

"Well, what must we do, doctor?"

"It is now the end of June. The heats of summer are come, and the dog-days will soon be here. It ought to be a general holiday. Take Mary to the mountains or to the shore. If you take her to the mountains it is well, if to the shore it is perhaps as well. Among the mountains, she will walk on uneven places, up hill and down. The air is pure, the streams clear and rapid, and there is no malaria; walking among hills is admirable exercise; it compels the blood to reach the most distant points of the circulation, and drives it from the deepest recesses of the body. It augments the development power *pari passû* with the invigoration of the appetite and digestion. There is shade in the deep valleys and dark ravines; and to walk by the side of run-

ning waters, and listen to the plash of their falls, imparts a delicious calm to the soul, while the physical powers, as in a sort of waking sleep, seize the opportunity to renew and restore their wasted strength.

"Take her to the shore. There you have the benefit of the breeze from the sea, and the ever-varying spectacle of the ocean's surface presenting new and pleasing sources of sensation. The sounding strand, the leap of the breaker, the ebbing and flowing roll of the waves on the sands; ships heaving in sight and slowly disappearing; company, conversation, music; the dance, and, above all, the bathing in the animating surf, present combined means of increasing the health and spirits, that are, perhaps, not certainly, equal to those derived from a visit to the mountains.

"If you take her to the hills, let her walk, as much as you dare—at least six miles daily, and, if the country is very hilly, that is more than equivalent to a walk of eight or ten miles on level roads.

"If she goes to the shore, be careful not to allow her to bathe too much, surely not more than once a day; nor too long, not more than fifteen or twenty minutes each time. I am quite confident that those who stay very long in the water are weakened by it. They generally come away from the coast thin, and shrunken, and lighter than when they go there.

"The sea bath has great power on the body by its saline nature, which is stimulating to the whole skin; by the motion and effort that those use who bathe in a strong surf; by the delight which the dash of the wave communicates, and by the gayety and joyous feeling engendered by the company of the bathers.

"If she remain very long in the water, her hands and feet will be shrivelled or puckered when she comes out, and it will be after a long time and with considerable effort that the blood will again reach and distend the tissues on the surface and the most distant parts of the limbs. In order to receive any benefit from the bath, there ought to be some degree of such a reaction; but it is wellnigh morbid when it comes too slowly. A person coming from the bath and remaining cold, or even quite cool, for half an hour, has been in it too long. Many persons suffer, from the bath, such a concentration of blood in the great cavities, as the chest, and head, that they find themselves oppressed in breathing, or giddy and affected with headache, upon leaving the water. I have seen many such coming from the bath unable to see, and with intense cephalalgia, and only relieved by the act of vomiting; all which was dependent on the rushing of the blood to the brain, where it had been driven by the cold water from the extremities and the skin.

"Take care of Mary's diet.

"Let her eat beef, mutton, or poultry, once a day; don't give her the sort of vegetables so correctly denominated in this country, *trash.* Indeed, you ought to give her eatables with one sole view; that is, to nourish her, to make her grow—to make her stronger and healthier. Don't allow her to swallow a morsel, merely because it tastes good. It would not be amiss, in educating her, to educate her palate. I wish you would buy her a copy of Brillat Savarin's *Physiologie du Goût;* it would do her more good, and make a better woman and wife of her than Massillon, or even Télémaque, or Paul and Virginia; for it would teach her what every woman ought to be taught, the difference between an elegant gastronomic taste, and that horror of horrors, foul-feeding in a lady. Only think! only think of a lady eating tripe—or devouring fried haslet!! *Oh mon bon Dieu!* It is surely but one step above the dinners of the Bosjesmans or the Galla.

"Take care of her dress; when the weather is hot, don't heat her; when it is cool, or cold, don't let her be chilly for want of a flannel petticoat, or a mousseline de laine, instead of a gingham, or a fine print. Nobody is well who has not a proper state of the bowels. The upper bowels are well enough for most people. It is the large intestine that is the seat of costiveness. You must avoid that. How? By regulating her diet. Bran bread regulates the bowels, keeping them soluble. So do mush and milk, cracked wheat or *semouilles,* baked apples and milk, ripe sweet fruits, food not too much salted. We eat too much salt, in this country; it heats the blood, and over-stimulates the digestive organs. I believe half the charm of the French *cuisine* lies in the perfect apportionment of the salt. No spices. Not too much drink. Everybody drinks too much. In the cities, they drink too much iced water. Half a tumbler of spring water slakes thirst more than a tumblerful iced down to 45°. If her bowels are slow, you can make her take a pill of aloes and soap, or a pill of aloes and rhubarb; one grain of aloes to two grains of rhubarb. Such a pill, taken daily early in the morning, or on going to bed, will keep the bowels regular enough.

"Perhaps there is no pill to be found that is preferable to Lady Webster's pill, called also Lady Crespigny's pill, or the English Dinner-pill. It is made after the following formula:—

℞.—Aloes ʒvj.
Mastiches ʒij.
Ros. rub. ʒij.
Syrup absinthii, q. s. M. ft. massa in pilul. No. cc. dividend.

"One or two of these pills, taken from half an hour to an hour after

dinner, will rarely fail to procure an evacuation without purging; and for the impuberic or the now puberic girl, it is admirably adapted as to various indications.

"Don't suffer her to be violently excited; take every precaution to keep the mind not stupefied, certainly, but in a calm and complacent mood—rather gay than grave.

"Examine her books before you let her read them. Keep out of her hands the Paul Cliffords and Ernest Maltravers, and all that sort of passionate novel reading. Walter Scott will never do her any harm. On the contrary, he is always on the side of virtue, decency, and order; his passions are not very passionate, except, perhaps, Dirck Hatteraick's case, and he was a mere brute, whose example nobody but such an one as himself is likely to admire or follow. But, as a general rule, works of fiction are of little value in the moral education of the young; they spoil the taste for more useful studies; and are for the most part dull and uninviting, except they be seasoned with the wild, the terrible, or the passionate, in revenge, in mysticism, or in love.

"It is surely practicable, while her mind is evolving itself, to educate it and cause it to develop itself in a particular direction. You do not deny that she might be educated to become a devoted sister of charity, a calm, unimpassioned country girl, or a fantastic, uncontrolled opera dancer.

"If you educate her for the persistent zeal of the conventual life, for the dull complacency of the farm life, or the excitement and passion of the *spectacle*, do you not modify her whole nervous system by these several modes of education? Is it not true, in morals as in gardening, that 'just as the twig is bent the tree's inclined?' and is there the shadow of a doubt that you could so educate your daughter as to make her a pattern for a nun, a milkmaid, or a prima donna?

"If there be no doubt as to the power of the moral educational processes to give such or such a bias and propensities to the mind, then you ought to consider what is the bias it is for her interest and your own that she should take.

"If you wish her to be beautiful, steady, sensible, useful, and therein admirable, you should take heed to give her all the habits that may conduce to such an end of her physical and moral education. Let her know the history of her race; teach her the lives, that she may imitate the example, of the most illustrious women—illustrious I mean for virtue. Give her a good foundation of geographical and chorographical knowledge. Let her learn the uses of figures. Give her a competent view of chemistry, that she may understand the true nature of the physical things of the globe; a sketch of natural history, I mean not

only zoology, but botany, ought to be clearly understood by her; the purest and best poets, and writers of criticism. The use of one or more foreign languages, chiefly French or German, ought to enter into the plan of a lady's education. If she have a positive talent for music, let her be taught the use of some instrument and of her voice; if not, pray don't make her ridiculous by a pretension to musical power she can never possess. Don't teach her the art of squalling. To draw is always a useful accomplishment. But do not let her learn that art by halves; nor at all if she is without the taste and inclination that alone can give her real success. There is scarcely a more useful point in the ornamental part of education than the talent of drawing; it serves pre-eminently to render one's ideas of form, dimensions, and distances more perfect.

"As to the religious part of her education, I have no other words to say of it than that a woman who is impious is impious indeed.

"I think in this country a woman is not properly marriageable until she is eighteen, and better so at twenty. If, therefore, you commence the literary education in earnest as early as nine or ten years, you have eight or nine years of applicable time to give to the daughter the elements of her education—to give her her school education—by which I mean the acquisition of a love for letters in a proper direction. To think of any one being *educated* at eighteen is preposterous. All life ought to be a continued scene of education; and the longest life is too short to allow us to do more than 'just to look about us and to die.'

"As to the medical management of the child, I believe that to be a very simple matter. It consists in a wise regulation of her diet and dress, and in a careful attention to the state of her digestive organs.

"She is weak at present. She has grown very rapidly during more than a year, and has outgrown her strength. Under such circumstances, you would not do wrong to give her a small glass of sherry or port at dinner, diluted with water, though. There are a great many bitters that are useful in supporting the digestive organs, such as wild cherry bark, quassia, infusion of gentian and cascarilla, or bark and cascarilla, or sulphate of quinia; the latter is probably the best of them all. But all these bitters are more or less disagreeable to young people, and they grow tired of them and give them up. If you please, you can compel her to take them.

"While it is true that the vegetable tonics are endowed with great medicinal power, it is equally true that the mineral articles are also capable of increasing the tone of the solids of the body, by augmenting the development force resident in the sanguiferous apparatus, and its nerves.

"Among these tonics, the safest and not the least efficacious are those derived from iron. The chalybeates may be taken for an indefinite period, and they neither fatigue, nor disgust, nor poison the patient.

"There is a large and free selection to be made out of the numerous preparations into which iron has been converted for medicinal uses. It is probable that they all partake more or less in the tonic properties of the chalybeate. M. Raciborski, in his Treatise *de la Puberté*, &c., seems to think the most powerful and preferable of them is the article proposed by MM. Quevenne and Miquelard, the impalpable powder of metallic iron, procured by passing hydrogen over an oxide of iron heated to redness in a porcelain tube, which reduces the metal, and leaves it in microscopic shining particles. This powder of pure iron unites with the acids of the digestion, and exerts its peculiar influences, whatever they are, with very great certainty.

"Two grains taken for the dose, and swallowed soon after each daily meal, serve, in a pure unmixed anæmia, to restore the crasis of the blood in a fortnight or three weeks. Made into pills with pure honey, they are supposed to keep perfectly well, and they are both inodorous, and without taste, provided they be not chewed in taking them.

"Procure two hundred or three hundred such pills, and you shall see what a power they have to steady the circulation, to render it powerful, and hence to give steadiness, firmness, and precision to the actions of the nervous system. I should advise you to give the medicine daily for many months. It is not very rare to take it for more than a year. I have very good reason, from my observation of cases to believe that, if a person, under these circumstances, recovers a good appearance of health and vigor under the use of iron, and then at once leaves it off, there is a propensity to relapse. Hence I insist upon a protracted use of it; and I have the less hesitation to do so, inasmuch as I do not regard it so much a drug that I administer, as one of the regular elements of the bodily constitution.

"Open your senses to the truth; you shall see with your eyes, and hear with your ears, the sound that comes up out of the bosom of nature, proclaiming aloud that every violation of the laws of nature is a wrong. Anybody can perceive that, in a highly polished state of society, there are innumerable violations of the dictates of nature, which speak to us constantly, and cry out to us aloud. Numerous diseases are engendered by the constraints and the indulgences of the *bienséance*. Make your child therefore as natural a creature as possible in society; that is the way to secure her physical health. Make her also—wise—wise unto the end and destiny of her being. I grant you that, being at Rome,

we must, in some degree, behave like the Romans, but not wholly so; for we may live in society, and even be regarded as presentable people without becoming victimized, and wholly converted from a natural into an artificial condition, either as to temper, manners, or the love and practice of truth and sincerity.

"As to rest and labor, as to dieting and dressing, as to amusements and studies, there is a degree and a time which common sense makes clearly known to any one who will reflect.

"The health, the beauty, and the happiness of a girl may be impaired or perverted, and even destroyed by educational processes wrongly conducted. There is no Procrustean rule by which all capacities are to be measured, and it is the business, and it ought to be the sagacity and the skill of the directors of education to discriminate among the talents, and propensities, and abilities of those who are to be brought up. I shall relieve you from this long homily, by repeating the words that I heard in the spring of the year 1813, from the lips of our venerable and illustrious medical professor at the University of Pennsylvania, Dr. Rush. Those words were spoken in the ears of several hundreds of his pupils. He rose from his seat, for his age was great and his hair white as snow. He arose and stood up, and, casting his eyes over the large hall, looking to the left, and then to the right, and then to those in front of him, he said, 'I rise from my seat in order to pronounce two words in your hearing; and that you may remember them long, and apply them wisely:

OBSTA PRINCIPIIS—OBSTA PRINCIPIIS.

Oppose the very beginnings of disease.' And now I repeat them to you, madam, obsta principiis; oppose the beginnings of disease in the child; watch over her health, and, when you see that it is deranged, call the physician, and he will tell you whether you are to do something or nothing. Do not allow her to become slowly and insidiously, and deeply disordered, before you take prudent measures with her."

Gentlemen, I have written you a very long letter about puberty in girls. Upon looking over it, I fear it will merit the character of a letter *de quibusdam rebus et de omnibus aliis*. Have I succeeded in my intention and design? That design and intention was to say why I regard the puberic malady as a malady of the blood, arising from a pathological state of the endangium, the BLOOD-MEMBRANE.

If you look through the volumes in your libraries, I apprehend you will not find in any of them so concise an opinion as that which I have herein expressed; and I beg to assure you that, so far from expecting

that such opinion will be accepted by my brethren, who may chance to do me the honor to look over these pages, I even expect to be condemned as hypothetical and visionary in my notions on this particular point. To any such reader, I would gladly be allowed to submit that, after many years of reflection and observation, which happen to have accumulated as to this particular malady, I have been unable to come to any other conclusion. I hope there is no person of sensibility who would be indifferent to the opinions of his peers, or his superiors, in any walk of life: I freely confess that I am very remote from any such indifference, and that I should seriously regret the putting forth of opinions in medicine that might be supposed to injuriously mislead the young and inexperienced. I have, therefore, to express my hope that, if upon a perusal of this letter, it may appear to any of my brethren I am obviously in error as to my notion of the endangial disorder as a cause of the puberic malady, such brethren would do me but bare justice by inquiring how it is possible to explain that affection by any other hypothesis, seeing that it is purely a want of innervative force for extraordinary efforts, while that force is fully and absolutely adequate to all the functions of health, while the body is in repose; all, I say, saving and excepting the last climax of development force, to be exhibited in the production and evolution of ovarian ovules.

My supposititious conversation with the patient and her mother, I thought might serve to lay before you, my young friends and pupils, less tediously, not less didactically, a manner of talking to my patients, that I have long used.

I have nowhere asserted that other maladies may not enter into the category of the puberic maladies. I now say that, when they do so, they are pleuritis, rheumatism, hepatitis, gastro-intestinal diseases, and, in a word, all the various forms of diseased action that may serve to contravene the menstrual power and offices. But when they do so come, we are to treat pleuritis, hepatitis, rheumatism, &c., and not the puberic malady. That is an endangial disorder. Farewell. C. D. M.

LETTER XXIX.

THE MENSTRUA.

Gentlemen: It is universally known that the human female is distinguished from the male not more by the peculiarities of her structure, than by those of certain functions, such as childbearing or giving suck, and the regular elimination, at stated periods, of a quantity of sanguineous or bloody fluid. The functions of menstruation, of bearing children, and of providing the aliment for them in the mammary glands, are, then, the three distinguishing functions of the sex. Yet, though differing from each other so manifestly, they are to be considered as intimately allied to each other, the one not being possible, as a general rule, without the existence of the other two.

You know already, that the sexual functions are not assumed in this country until the fourteenth or fifteeth year, and that, when they happen to be assumed earlier than the fourteenth, or later than the sixteenth year, they are to be deemed precocious in the one case, and in the other tardy. That individual is to be regarded as most fortunate in whom this occurrence is first noted between the age of fourteen and fifteen years. A premature eruption of the menstrua is always to be deprecated, because it is the evidence of a precipitate development of certain parts or structures, while others, not less important in the same category, are delayed and incomplete. The individual who passes at a usual and healthy rate through all the stages of growth and development, from infancy up to maturity, is most likely to enjoy a healthy and happy life, free from weakness, pain, and the danger of premature death. Death loves a shining mark, they say, and those children and youths who astonish us by the early perfection of their structures or their intellectual forces, are snatched soonest from the world, as the earliest blossoms are ever most exposed to the chilling frosts of spring. On the other hand, a late and procrastinated first-eruption of the menstrua is to be regarded as the sign of some weakness or disorder, preventing the manifestation at the average period of life; and it always excites painful apprehensions as to the security and perfectness of the individual in whom it is observed.

Differences of climate situation and condition, occasion differences

in the period of the assumption of these powers. There is no doubt that the women of Lapland, the arctic Highlanders, women who are brought up roughly to laborious employments and on coarse food, are later in the manifestation than those who reside in temperate or hot latitudes, those who are brought up luxuriously, and those in whom the susceptibilities of the nervous system are exaggerated by their moral and physical training and education. Such is the report made by writers who have collected statistics on these subjects—for which I shall refer you to the authorities, among whom no one appears to have taken greater pains to collect numerous statistical returns than M. Brierre de Boismont, in his *Treatise on Menstruation*. For my present purpose, it suffices to say that, in our country, girls become regular between fourteen and fifteen years of age. Nevertheless, many do not see until advanced in their sixteenth year, while a great number are changed at thirteen and a half, at thirteen, and even before they have completed their thirteenth year. I have known a great number of such; but I always hear it with regret. I say with regret, for I am assured that, if the pelvis of a girl, who had become regular at thirteen, should be long macerated or subjected to ebullition in water, the several portions of her ossa coxalia would separate into ilium, ischium, and pubis, and the epiphyses and apophyses would also be found unconfirmed in their union. Here then is a proof of want of conformableness in the development of the machine—for to menstruate is to be fit for conception, gestation, and labor; but to have unconfirmed union of the pelvic pieces is to be unfit for those offices. But all want of conformableness in development is *disorder*, not health. This is the argument that ought to be regarded as unanswerable against early marriages, which are *sacrifices;* nothing less.

The menstrua, the catamenia, menses, courses, terms, periods, monthlies, monthly periods, purifications, and other names, consist in a periodical discharge of blood mixed with mucus and epithelium. In women in good health, they return once in twenty-eight days, and continue during three, five, or seven days, less or more, according to the particular constitution of the woman, and the quantity eliminated greatly varies in different women, and even in the same individual at different times and ages.

These monthly discharges return with great regularity from the fifteenth to the forty-fifth year, except when interrupted by sickness, by pregnancy or by giving suck. At the age of forty-five, they cease to return; and thenceforth, the female is no more capable of conceiving, as she was equally incapable of it previously to its first eruption. It has, therefore, a clear connection with the power of reproduction.

As I love to read old Thomas Rainald's "Woman's Booke, or the Byrth of Mankinde," let me cite that spirited but quaint old gentleman for you, to show his opinion as to the cause of menstruation :—

"The cause and reason why nature created this perpetual course of termes in women is this: forasmuche as Almyghtie God had so institute that women should be conceaved, efformed, or fassyoned, augmented, nouryshed, and brought to perfection. This coulde not be done unlesse there were a commodious and convenient place to this office assigned and destinate, whereof nature created the wombe or matrix to be the sayde receptacle and house of office, wherein she mought, at her leasure, worke her devine feates about the seede once conceaved.

"Agayne, it is not inough the seede to be placed, unlesse also it have foode and nouryshment, to the increase and augmentation of the same, wherefore prudent Lady Nature full wisely hath provided that there shoulde always be prest and redy a continuall course and resort of bloud in the vaines of the matrix, as a very naturall course, spryng, fountayne, or well, evermore redy to arouse, water and norishe the feature so sone as it shall be conceaved; yea, although the woman do never conceive, other because she accompanieth not with man, other els for some other infirmitie; yet is there no faulte in nature, who hath prepared a place and foode to be at all tymes in a redynesse."

Here you see that, in the days of the great Queen Elizabeth, Dr. Rainald regarded the menstrua as the appointed aliment of the fœtus in utero; this explanation satisfied his own mind; but it has long since given place to more accurate notions of the uses and designs of this catamenial office, which are now well understood, since we have become clearly acquainted with the cause of the phenomenon.

For more than twenty centuries there has been a constant inquiry, among the learned, as to what should be the cause of a regular menstruation in women; a phenomenon that is common to them in all nations, climates, and ages of the world. It is not wonderful that an anxious curiosity should have existed on this subject, seeing that the regular and healthy performance of the office is related to the health, beauty, perfection, and security of the female; and this among all people of every age of the world. Nor should we be surprised to learn that many superstitious opinions, rules, and observances in relation to it, have existed in ancient times, or that such should still linger among even the better educated classes of society. Notwithstanding this great anxiety to learn the truth as to menstruation, and in despite of the researches, observations, and conjectures of so many enlightened philosophers and physicians, no certain or even probable conclusion was reached until very lately, that several illustrious medical men in

Europe have had the happiness, through a succession of fortunate discoveries, all tending to the ultimate conclusion, to place the matter in what seems to be a clear and perfect light: so that I am of opinion that ere long, there will be no difference of sentiment as to the causes and nature of this function. I believe that they have arrived at the truth of this doctrine. Truth is always precious, and never more so than when its rays, like a bright sunbeam falling into a darkened chamber, makes manifest objects never clearly seen or understood before. The discovery of the truth upon this important subject makes many things plain to physicians, as to counsel and action, that were obscure and uncertain before: whence they are now enabled to do much good they could not previously effect, and avoid much evil, which their ignorance of the real nature of the catamenia led them unavoidably to commit. The discovery in question should, therefore, be hailed as one of signal importance in the practice of our art, and it is proper that I should devote some portion of this letter to the object of explaining it to you, adding such reflections of my own as may arise in my mind in the course of writing this letter to you.

Before I come properly to the particular subject, I ought to premise that great confusion and error have existed in the opinions heretofore formed concerning the wonderful periodicity and regularity of the catamenia, and the wonder has been the greater, because the intervals between the returns are so long. In very regular women, it returns on a day that they can count upon for months beforehand. To take a single example. January 3, 1843.—Mrs. —— told me, this evening, that she became regular at thirteen years of age. During her whole menstrual life, now probably closed, she was six days *unwell*, and her returns were always on the twenty-eighth day from the day of the last attack. The returns never had reference to the phase of the moon, or the day of the month; nor had she ever any diseased or painful sensation relative to her menstrua. She had four children.

There are many women who menstruate earlier than the twenty-eighth day, while others experience the returns only every thirtieth or thirty-fifth day, or after a still longer interval.

The recurrence once in twenty-eight days, or once in each lunar month, led to the general conviction that a lunar influence rules the return. This notion has been for ages deeply impressed in the public mind; notwithstanding millions of persons could daily testify to the contrary, seeing that everywhere, in the same meridian, women are unaffected by any such influence; for there is probably not a moment of any day in which some women are not in the beginning, middle, or end of the term. If the influence of the moon could be justly supposed

to have anything to do with it, it ought to be felt by the mass of the female population on the meridian, and not by one of a hundred.

Another hypothesis is that the courses are caused by a state of general plethora or vascular fulness, occurring regularly in the female, and rendered necessary to her as a reproductive or childbearing creature. Her liability to pregnancy, it was thought, required that she should habitually produce an excess of blood, so that, when a surplus beyond the requirements of her own constitution should be demanded by the growing embryo, that surplus might be at hand. But such a plethora would be inconvenient, unless it was reduced by menstruation, or gestation, or lactation; hence out of the necessity of the case she menstruates.

To say, however, that the woman menstruates from a necessity to eliminate a certain quantity of blood, once a month, is merely to present the proposition in another form; it is equivalent to saying that she menstruates because she menstruates.

The fact is that all sorts of women are regular, whether plethoric or not. There are even some of them who menstruate, though quite hydræmical, or to a certain extent bloodless.

You do not prevent a female from having her returns next Monday because you take fifteen ounces of blood from her arm to-day, Saturday; but you certainly do remove her hyperæmia by so doing. I have bled many women just before the return of the courses, without checking or at all hindering their regularity. The physiological laws of menstruation are not to be broken or prevented by any such act of reducing the mass of the woman's blood. Besides, there are many thin, scrawny women who lose much greater quantities at the time of being unwell than the robust, and fat, and florid people whom you would suppose to yield a vast quantity. There are even women, while laboring under severe chronical disorders, such as shall at last bring them to the grave, who nevertheless menstruate quite regularly and plentifully, until a late period of their decline. I say this of some women, not of the generality, for so delicate are the machinery and working of this catamenial office, that in multitudes of the sex, the slightest thing that can touch the health to disturb it, puts to instant flight all this power of life.

Do you imagine, then, that a state of general plethora can be assumed as the cause of menstruation? I should think not.

The next idea was that a local plethora, or turgescence of the vascular apparatus of the reproductive organs, is the cause of the menstrua; and that some unknown necessity, some unknown force caused this local plethora to rise to such a height as to produce the outward sign of the menstrual act, in the visible flow of blood from the genitalia.

Now, this is a true doctrine, as far as it states the fact, viz., that a local plethora or hyperæmia, occurring at stated periods, is the cause of the menstrual hemorrhage; but what is this unknown force? what this power that recuperates itself for every lunar period? The solution of this question is the solution of the long difficulty, and I shall proceed to lay it before you, with certain premises, however, because I wish to instruct you, not to dogmatize with you. If I should say, in a few words, that the local plethora is the result of the physiological function of ovulation, which is a vital paroxysm, common to all reproducing creatures, whether animal or vegetable, I should merely dogmatize for you; if I can lay before you the arguments by which I have been convinced, I shall be more likely to lead you to the conviction of what I deem a most essential truth.

If you should pick up a pebble on the shore, or a handful of sand; if you should break off a bit of stone from one of the great rocky strata of the earth; or, if you take in your hand some salt, or a piece of glass, or a bar of iron, or an ingot of silver or gold, and carefully examine them, and inquire into the laws of their production and continuance in a present condition, it will be easy to arrive at the conviction that they are destitute of life, of sensibility, of appetency, and incapable of producing or generating their like, and altogether without organization; and that they are, in short, inorganic bodies, controlled only by the laws of the cohesive, elective, and gravitating attractions. If now you take into your hand a butterfly, or the smallest creeping thing, or infusorial creature, or any plant, blossom, or seed, or whatsoever thing that is endowed with life—with life-force, you will perceive at once the difference between it and the inorganic masses that possess only the brute force of matter; but if you attempt to set down in plain words the differences betwixt inorganic and living organic matters, you will be surprised to find how difficult is the task. Indeed, it is in some instances impossible for the naturalist to decide at what point, in a series, the organic ceases and the inorganic nature begins; and there are certain bodies, whose place has not even yet been ascertained, as whether belonging to the mineral, or to the vegetable kingdom.

Burdach, at page 128, vol. iv. of the *Physiology*, says: "When a mass which is homogeneous as to its substance, develops antagonistic forces throughout its extent, and flows, and becomes fixed in certain determinate directions, the result of such motion is *crystallization*, or the acquisition of a regular form, which is determined by the nature of the mixture, and accomplished by means of the proper motions. The crystal is, therefore, the permanent expression of the moving forces; in it, motion has become rest and permanent extension: activity is meta-

morphosed into a corresponding existence; it is extinguished as motion, and is now only manifested as cohesion," &c.

Neither Mr. Burdach's views, as above set forth, nor the opinion that organic matter is characterized by the binary combination of its elements, while a ternary, or quaternary combination produces animal or organic matter, can be considered as removing the difficulty in deciding where, in matter, organic and inorganic natures are to be trenchantly divided; but we are left to the conclusion that there is not actually a hiatus, or a limitrophic distinction, but rather that they mutually pass into each other upon the confines of both. The philosophic poet Lucretius stumbled over the same difficulty that lies in our way at the present moment.

> Ignoratur enim quæ sit natura animaï,
> Nata sit, an contra nascentibus insinuetur.

It appears to me that the reproductive force is the eminently discriminating and characterizing force as betwixt the organic and the inorganic bodies, since it is clear that the ponderable bodies, as the metals, alkalies, earths, and gases, are incapable of reproduction; whereas, all living or organized bodies are but the repetitions or reproductions of forms and forces with which their archetypes were endowed, from the commencement of the present cosmic order and arrangement.

Mr. Burdach's extract, above given, would seem to warrant the opinion that there is this difference: viz., that in inorganic bodies, the cessation of molecular motions gives them a permanency and stability, contemporary with the globe itself; while in organic matters, the cessation of motions is the signal for the final dissipation of their elementary materials. The one being permanent as the world, and the other unstable, transitory, vanishing like the morning dew, perishable as the new-mown grass, or like the flower that comes up and is cut down.

You ought, however, to remark that the Divine Author of the world has so ordered his laws, that the fleeting and evanescent form of living beings is, after all, as permanent as creation itself, and that, while we are in our own persons such perishing creatures, we are permanent, I had almost said immortal, as a genus, or a kind—who have been present here since the beginning, and are destined to exist as long as the inorganic materials upon which we tread shall endure. Does it not seem, then, that God has impressed upon our nature a great Force, a great principle of extension in time, and in space; one which insures our permanency? Judge, then, what must be the amazing power and necessity of that law, or that Force upon which the conservation here, the permanency of the genus depends and alone depends!

But, if the Creator has fenced his genera about with such strong bonds as these, then it cannot be but that those bonds and laws are worthy of the close contemplation of the medical Student, since all their deviations, whether as exaggerated in intensity, or whether as feeble and imperfect in action, must exert a potent influence on the health and security of the individual. But if the physician should be able to know and understand these laws, he would be better prepared to provide the remedies for all the results of such disordered or interrupted action!

Take further into consideration the thought that, if these laws are really so potent as to keep us forever here upon the earth as mankind, so that the earth cannot become again a wilderness, the abode of only inferior creatures, must it not be that similar laws and sanctions are provided for the conservation of all other forms of existence? Do you not, therefore, perceive that each blade of grass, each tender blossom, or branching oak, or lofty pine, or trailing vine, repeats itself by means of the same Force, from age to age?—so that the modest violet, peeping with its blue petals and yellow anthers from its shelter of dewy leaves, is in fact as durable as time itself? and that its perpetuity is secured by the same force that perpetuates us, and all creatures besides? Every grain of wheat, every kernel, every seed contains a germ; every egg of the smallest aphis, the tiniest sparrow, the tallest ostrich, has a germ within it. All the spawn of fishes contains in each granule a germ. If you put a quart of distilled water in an open vessel upon your window-sill, it will soon be teeming with living infusorials, whose invisible germs float on every breeze through the air, and which, when deposited in the vase, evolve themselves and become instinct with life and motion. All the mammalia are likewise reproduced from germs contained within true vitellary bodies or eggs. The egg of a barn-door fowl is not more perfectly an egg than is the microscopic egglet you find in the Graafian follicle of a cow, a mare, a sheep, a dog, or a whale. Each egg consists not only of its germ, but its yolk, which is the pabulum or aliment of the germ. The viviparous creatures require but a small quantity of yolk about the germ, because the embryo soon attaches itself to the living solid of the mother; the oviparous creatures require a large amount of vitellary matter; for the embryotrophic wants of the germ are great, and the amount of yolk must be conformable to the whole wants of the embryo. The germ in the egg of a humming bird is as large, probably, as that in a cassowary's egg; but the humming bird, when leaving its shell, is incomparably smaller than the young of a cassowary or ostrich. Hence the embryotrophic wants of the latter are supplied by a vast quantity of materials, and those of

the former by a few grains only of the same sort of reproductive matter.

The germ of a whale of eighty feet in length is not larger, probably, than that of a perch. But the placental life of the balæna enables it to evolve its young of the length of twenty feet or more before it is born; while the spawn of the perch or salmon is not larger than the head of a pin, and its embryo of a conformable magnitude.

I have now to ask you to inquire whether these ova, in all the living tribes, whether of an animal or vegetable kind, are produced continuously, or at stated times. How is it? But why should I ask you to make this inquiry, since I know that you have already made it, and are well informed upon the point?

You know when to go into the gardens, in the early spring, to soften the soil and prepare it for planting. You know when the farmer mows, and when he reaps his harvest. You know when the lambs of the flock are yeaned; when the roses and tulips, when the migratory birds and fishes, produce their young. How often does the germ production take place? Once a year. The flight of the pigeon, the migration of the swallow, the annual arrival on our coasts of the shad, the herring, and the salmon, and cod; the bursting of the leaf-buds of the forest; the springing up of the grasses and flowers in the vernal season, are facts known to you, and which have taught you that germ production is not continuous and progressive, but paroxysmal and periodical. But if, throughout all nature, we find that germ production is a periodical occasion, a vital paroxysm, why do we hesitate to believe that we also live under the same universal sole law of reproduction? As well suppose half a dozen different principles of gravitation, or of cohesive or elective attraction, as a variety of reproductive principles; there is but one, which is *omne vivum ex ovo*, and the ovum is produced not continuously but paroxysmally.

While I am considering the subject of the periodicity of germ production, I shall take the occasion to call your attention, more particularly, to a wonderful scene that is annually presented in the United States. I allude to the annual rush, into the American rivers, of the different tribes of migratory fishes that force their way from the ocean into the mouths of our streams, and which, ascending as near as they may towards the head waters, find at length the suitable places for depositing their spawn, or in plain English for laying their eggs, each one of which contains a germ. The fishermen of the Potomac and of the rivers of North Carolina not unfrequently catch at a single haul as many as a million herrings, while vast quantities of shad are also captured in all the rivers of the Atlantic American coast. In the

spawning season, the salmon in the Oregon rivers are so abundant as actually to check in a degree the current of the streams, as we learn from the traveller Mackenzie, as well as from Messrs. Lewis and Clark. The annual visitation of the shad takes place, in the United States, in the spring of the year. They come down from beneath the arctic ice and strike our coast north of Carnaveral, entering first the rivers of Georgia, where they are seen sometimes about the 20th of January. They next and in succession explore the waters of the Carolinas, Virginia, Maryland, and Delaware, entering the streams of Pennsylvania, New Jersey, and New York, in the month of March, and so on, at later and still later times of arriving, until the migration is over. Millions are consumed as fresh food, and an immense number put up as salt fish for later consumption and for exportation. It is rare to find one of them in the waters that run into the Gulf of Mexico. Thousands of millions of herrings annually pursue the same course. Most of the herring are said to come from the shores of Spitzbergen and the Greenland ice. They divide into two immense streams, one of which proceeds downwards near the coast of Europe, and the other by way of Labrador, and so south, until their instinct teaches them the time is at hand for securing the reproductive product, when they turn to the river mouths and ascend to the shallows where they may spawn.

Now this vast migration through many hundred leagues of trackless ocean, is compelled by an instinctive Force, which is a part of, or at least attached to, the reproductive Force, just as the commencement of the nest for the mocking bird, or the darkening of the aureole for the impregnated woman, is a part of that force. That instinctive force it is which causes them to ascend to the shallows where the sun's vivifying light and the augmented temperature of the waters, at the proper season, may perfect the evolution and exclusion of the embryo fishes.

In all the bony fishes, the male is destitute of any copulative apparatus; and hence his only function is to follow the female, in order to shed his fecundating secretion over the places where her germs are deposited; and his voyage of hundreds of leagues is a compulsory one, under the stimulation of that great reproductive Life-Force. Once a year he returns from his distant feeding-ground "in number numberless," to perform this great act for the conservation of the genus. It is in a staccato, not a sostenuto movement that this great hymn of nature is performed. Could I possibly cite a stronger case to show the periodical, paroxysmal, pulsatory nature of the great reproductive function?

In like manner, the herds of the Buffalo on the great western prairies,

ten thousand in a herd, wander from the Internal Provinces to the banks of the Saskatchawan, annually repeating the same scene; and so it is with the moose, the elk, the deer, bear, wolf, fox, and martin; it is so with the saurians, the chelonians, the ophidians; with every animal, and every vegetable; why should it not be thus with the woman? It is thus. Her term is mensual, theirs is annual; she has the reproductive paroxysm every twenty-eighth day; they once a year. Some of the domestic animals have it every forty-fifth day; and the vibration is longer or shorter, according to the nature and condition of the subject of it.

A healthy woman matures, and deposits an ovum every twenty-eighth day, from the age of fifteen to that of forty-five years; failing only in case of pregnancy and lactation, and sometimes not even then. She sometimes suffers an arrest of the force during lactation; yet, in the majority, even that arrest is but of short duration, and in many it does not take place at all. The closing stage of the process of maturing and depositing, or discharging the ovum, is attended with a discharge of bloody fluid from the genitalia, which is called menstruation, because it takes place once a month. That bloody fluid exudes from vessels on the inner aspect of the womb, which has become engorged in common and along with the ovary, and which by this discharge is relieved of its hyperæmia.

Such is the opinion I entertain; such is the opinion I desire that you should hold. It is founded on evidence too strong to be resisted; for the gentlemen who have been concerned in establishing it have left no peg to hang a doubt upon, so thorough and so diligent has been the care to fence it about both by reasoning and facts. C. D. M.

LETTER XXX.

Gentlemen: I hope you are not already fatigued with the discursive method in which I have spoken of the periodicity of germ production and deposit, throughout the two kingdoms of nature, vegetable and animal. I deemed it necessary to speak so, since this very periodicity has for twenty-five hundred years been a stumbling-block to the seekers in this path of inquiry; and since, if it be truly observable in all creatures besides, it ought to be considered as established for our race, as well as for them. I shall now proceed to state that, in the economy of the human female, as in all the other creatures, there is provided an

organ for the evolution of germs, and that these germs cannot be produced by means of any other of the tissues or organs of which any animal or vegetable consists. This organ is the ovary. In the woman, there are two ovaries, oval-compressed bodies, each about an inch in length, by half an inch in depth, and a third of an inch in thickness. But the size of the ovary differs in different women, being in some larger, and in others smaller than the above-mentioned average. Each ovary is attached to an angle of the womb, by means of the ligament of the ovary, which is a cylindrical cord, about an inch and a half in length, more or less, and as large as a small quill. Each ovary lies behind the Fallopian tube and round ligament, and is inclosed within the peritoneal or broad ligament, which gives it its covering, or indusium. Inside of this indusium, or peritoneal covering, is found the fibrous strong coat, or delimitary membrane of the ovary, which being taken off, nothing is left save the stroma, or ovarian substance, containing the Graafian vesicles, or Graafian follicles, or Graafian cells, as they are indiscriminately called.

The stroma of the ovary is produced by the ovaric artery and nerve. I say produced by them, for it was originally evolved by them, and is constantly fed and maintained in its generical size, weight, and functional power by them, as the source whence are derived all the accretions required by the momentary waste, detritus, or life-combustion of its molecules. What a curious speculation it is that this long, wandering ovaric artery, and spermatic nerve, should be the only artery, and only nerve in the whole economy capable of producing *vitellus* or yelk matter; for, after all that can be said, they do produce it, and they alone. *Nullam rem e nihilo gigni, divinitus unquam*, is a dogma much older than Lucretius.

The ovary being endowed with the power of producing vitellus as in the ostrich, where a vast quantity is evolved, and in the female of our race, where the quantity is so small that a good doublet is necessary to find, and a good microscope to observe it afterwards, it is also endowed with the power of producing germs, of which vitellus or yelk is the sustaining principle, or aliment, or cytoblastema. Even if the true germ be indeed Rudolph Wagner's germinal spot (*macula germinativa*), and is to be regarded as the nucleole of the cell, while the germinal vesicle is the nucleus, and the vitellary membrane of the yelk the cell itself, filled with its cell contents or vitellus, still, it holds good that the whole product, macula, vesicle, and vitellus, are products of the ovarian stroma, and that nothing of the nature of an animal concrete, save the stroma, could produce it. Hence the stroma is truly the germiferous or germiparous organ; and hence, also, the dogma that I deem

true, stroma is *the sexual tissue*, nay it is sex, as I said in one of my former letters.

The origin of germs is a subject that might well fill the mind with amazement. It is so difficult to come at, that the strangest hypotheses have been forced into the service of its explanation. Lucretius says: "Semper enim partus duplici de semine constat." Lib. iv. But this epigenetic notion could not satisfy the demands of reason, and hence the doctrine of ova, or germs, must be resorted to, and the dogma of omne vivum ex ovo must be brought in to take its place.

Supposing it true, and established as truth, that all life proceeds from germs, or ova, still, the aching void of an unsatisfied reason remains unfilled; wherefore, it has been averred that all germs, or ova, were original creations—each thing living at this hour having proceeded from a germ which was included within the germ of its antecedent, back as far as the original creation; so that the ova in the ovary of Eve contained the ova or germs of the whole human race down to the present day, as well as all that shall hereafter exist, and so of *all* descent, or generation. This evolution doctrine was opposed by the Pythagorean idea of a palingenesis, or metempsychosis, under which notion you are to suppose that the animating principle that has heretofore animated the bodies of the living, seeks a new union with organizable matter, upon the dissolution of its last tabernacle, and carries on the new evolution until again displaced, and set free to make new combinations.

M. Huschke, by way of satisfying our insatiable hunger and thirst after truth on this point, proposes what seems a very ingenious opinion. It is extremely difficult, certainly, to conceive how the plastic and metabolic forces of a cell, or its nucleus or germ, could first be imparted to the germinal spot (*macula germinativa*). To do so, the mind must accept the idea of a new creative force, a force to create the germ, and launch it on its career of development and power. Such a metaphysical stumbling-block is always in the way here. We have little difficulty in accepting the doctrine of reproduction by gemmation, and by scission, for we can readily follow out Trembley's experiments on the fresh-water hydra, or polype, and comprehend to the full satisfaction of the reason and judgment, how a hydra can be reproduced by scission, by gemmation, or by evolution; at least there is a much smaller *caret*, or hiatus in the facts and the rationale. Now, M. Huschke supposes what I do not know that he has a histological right to suppose, *videlicet*, that the ovarian stroma contains, and essentially consists of, acini, and that an acinus being, by a physiological process, cast out of its gangue in the ovary, carries away with it the plastic and metabolic forces that enable it to become a new ovule; just as a bud from a plum or cherry

tree may carry away with it to another tree on which it is engrafted all the peculiar forces that enable it to bear plums or cherries, on a new and different stock.

By this method of M. Huschke's, you see, we are absolved from the whole difficulty of the discussion, for, under such a view of the case, there is no necessity to imagine a new creation, an epigenesis or a palingenesis, but we have a series of successive evolutions, or rather extensions, or propagations, or perhaps we might venture to say scissions or gemmations of living matter, extending downwards in time from the acinus in the ovary of our common mother Eve to that which exists in every female now living, or that shall hereafter live on the globe. Under this view, further, we might conceive that Eve is not yet dead, but that by her acini she still lives in extension, after having evolved, in the six thousand years, all the bodies of all her descendants.

Such is the inference from the theory that the stroma is aciniferous. I, however, do not know that the stroma is aciniferous. True, I have many times observed, in the microscope, the myriads of granular bodies which both Martin Barry and Gerber describe as visible in a particle of stroma. Still, I do not know whether those puncta be really acini or not. If they be not acini, of course M. Huschke's theory falls to the ground. Certainly, however, it is a very pleasant hypothesis, since it saves us from the rude difficulty of imagining a germ created by common physiological law and without miracle. If you should plant a Lombardy poplar, or vine, or willow, your son who should plant a slip cut from it might propagate his vine, and so on with his son, and to the millionth generation of your children. It is no wonder to see the cuttings grow; but to make a creature, *de novo!*—that is the hardest thing in reason or philosophy. Hence M. Huschke's hypothesis is a very agreeable one. I have thought it proper to lay the doctrine before you, and shall leave you to your own reflections upon it, begging you to arrive at your own conclusions.

Let me add that Oken declares, in so many words, that "there are only two kinds of generation in the world. The creation proper, and the propagation that is sequent thereupon, or the *generatio originaria* and *secundaria*. No organization has been consequently created of larger size than an infusorial point. No organization is nor has one ever been created which is not microscopic. Whatever is larger has not been created, but developed."

"Man has not been created, but developed. So the Bible itself teaches us. God did not make man out of nothing; but took an elemental body then existing, an *Earth*, clod, or carbon; moulded it into form, thus making use of *water;* and breathed into it life, namely, *air*,

whereby galvanism or the vital process arose." (*Physio-Philosophy*, p. 192.)

At different times, I have exhibited to you, and great numbers of the class have come down into the rotunda to look at it, the yelk taken from the ovary of the cow, as well as that from the ewe. You remember that the ovarian vesicle was punctured with a lancet, and the drop of liquid which spirted from the incision being collected on a lamina of glass and placed under the microscope, the yelk, containing its germinal vesicle and macula, was shown you in one of Chevalier's microscopes. This yelk ball was contained within Graaff's vesicle, which I had opened with the point of the lancet. Graaff's vesicle has two coats: an inner one, and an outer one which contains the inner one—sphere within sphere; but both the spheres are buried beneath the fibrous coat or albuginea of the ovary. The albuginea itself is contained beneath the indusium or the peritoneal coat.

This statement, viewed in connection with the fact that the ova of birds and fishes, and frogs, &c., are discharged without the intervention of the male, or any antecedent sexual conflict, ought to convince any one that the fecundation of ova does not take place within, but outside of the ovaria; and, therefore, that the ova must escape from the ovaria previous to the impregnating act. In other words, it is a physiological function of the ovary to mature and discharge its ova, in order that they may be afterwards haply fecundated. If you admit that this statement is a correct one, then you accept the doctrine of the spontaneous expulsion of ova, or the *ovi-posit*. Admitting the ovi-posit as a law of the reproductive force, then the question arises again, is this an irregular or a regular and periodical function? I have shown that throughout all living nature it is periodical, not continual, not irregular, not accidental. I see no bar to the conclusion that it is so in woman.

M. Négrier, of Angers, M. Gendrin, Dr. Robert Lee, M. Bischoff, and, more than everybody else, Dr. Pouchet, of Rouen, have taken pains to observe the state of the ovaria in women who have died during or soon after the act of menstruation. They have all found that, at that crisis, the ovary exhibits a mark on its surface, a bloody spot, a hole, a pore—into which can be pressed the point of a probe. Such mark is found only in coincidence with the act of menstruation or with the period of sexual excitement in the inferior animals. This hole, this pore, leads to an expanded crypt, filled with a minute clot of blood: if the ovary be split with a scalpel, conducting the incision so as to cut through the pore, it will be found to lay open a Graafian follicle, from which the egg has escaped through its pore-like hila, just as it happens in the ovary of the bird. These appearances are seen whenever an ovary is

examined during or shortly after a menstruation. You may remember that I showed you such an one in the ovary of a young woman who died shortly after her menstrua, and, what is more, I showed you the trace or cicatrix of the menses that preceded that last one, and I laid it open and showed you its crypt not yet closed up within, though healed on the outer surface. A specimen is now in the museum, which contains the uterus of a young person who died suddenly while the menstrua were present: the uterus still contained the fluid, and the pore was bloody. My own opinion is that you will never examine the internal genitalia, under such circumstances, without finding the fresh spot, and that you will not find it under any other circumstances. All this has been so clearly made out by M. Négrier, and particularly by M. Pouchet, that it is a loss of time to talk about it by way of proof or corroboration; and I really suppose that he who does not see and admit the doctrine of a spontaneous ovi-posit coincident with menstruation must close his eyes to the light, and deny the most irrefragable demonstration.

M. Pouchet has recently, 1847, put forth an enlarged edition of his treatise, under the title of *Théorie Positive de l'ovulation spontanée, et de la Fécondation des Mammifères et de l'espèce humaine, basée sur l'observation de toute la série animale.* This superb work is accompanied with an atlas, in quarto, containing twenty exquisite engravings, colored after nature, and exhibiting the appearances in the faithfulest manner. The plates are twenty in number, with many drawings on each one. M. Pouchet shows, in Plate XII. and Plate XIII., the microscopic appearances of the vaginal discharges in the menstrual and inter-menstrual periods of the female; discharges that consist of blood-disks, mucus, and epithelium. Plates XIV. and XV. exhibit the menstrua of the sow, and the rabbit, showing that the sow and the rabbit, at the time of their erotic excitement, which is regularly periodical, also discharge a fluid consisting of mucus, blood-corpuscles, and pavimented epithelium. I regret that it is not in my power to furnish you, in this letter, with a faithful copy of these beautiful engravings, and still more, that that whole philosophical and admirable treatise of his is not in the hands of each one of you.

M. Pouchet assures us, at page 262 of his work, that the sow, during its menstruation, "exhibits in the vagina a rose tint, and a small quantity of mucus; the microscope shows that this discharge is composed of fragments of epithelium, whether pavimented or cylindrical, globules of mucus, and also a very small proportion of blood-corpuscles." His figures, representing these appearances in the rabbit and the sow, do not differ from those representing the catamenial discharges in the

human female, except in the proportion of the blood-disks, which in the latter are vastly more abundant. He declares that the womb below the bifurcation is highly red and injected, and the cornua as well. M. Pouchet has observed similar appearances, at the period of the ovi-posit, in many other mammals. He insists that, as it is more than sufficiently proved that the period of ovulation, in the mammifers, coincides with that of the periodical excitement, it is equally evident that similar phenomena rule the physiology of the female, at the ovi-posit, in the human being. Page 267.

I deem it scarcely necessary to do more than refer to the observations of Dr. Robert Lee, of London, M. Gendrin and M. Négrier, and M. Raciborski, in France, on the subject of a spontaneous ovulation and deposit in the human female. All these writers, however valuable their contributions on this point of human physiology, have but sketched and hinted at the subject, in comparison with the laborious researches and fine suite of reasonings of M. Pouchet as to this great physiological act. It is to him that we are most deeply indebted for clear views; yet the name of M. Négrier, of Angers, is also to be held up and honored by all physicians for his most valuable work, which, though it be less full and complete than M. Pouchet's, yet is highly meritorious, since it is to him we owe much of the early light thrown upon our path. Dr. Letheby supposes he found in the Fallopian tubes of two different women, who died in hospitals while menstruating, the true ovarian ovules. If these observations of his are correct, then you have in them evidence on which you may rest the opinion that the ovulation may be completed before the sanguine sign of the menstrual act has disappeared. In birds, it is certain that the ova or yolks do pass into the oviducts without having been fecundated, as is the case in what is called the pullet's egg. Dr. Letheby's ova must have been non-fecundated ova—see an account of his paper from the *Lancet*, in *Amer. Journ. of the Med. Sciences*, April, 1852, p. 549.

I conceive that what has been said, ought to convince you that the ovulation or spontaneous deposit of ova is completely independent of the sexual congress; and you ought to add, completely independent of, and disconnected with, any sexual excitement or sentiment, in the human being, though it is far otherwise in the lower mammals, &c. The reason of this difference is to be found in the high morals of reasoning and civilized creatures, as distinct from those beings that are governed by instinctive sense, and not by reason.

If you accept the doctrine of the spontaneous periodical deposit of ova, then I think you have little difficulty to account for the mensual engorgement of the reproductive organs, or the monthly local plethora

or turgescence or hyperæmia, which is relieved so regularly and completely by the catamenial or mensual hemorrhage, for the evolution of a Graafian cell is more and more rapidly effected, as it approaches nearer and nearer to its completion. The largest and most mature follicle becomes now enveloped, so to speak, in a mass of injected and engorged and hyperæmic tissues redolent with life. It is surrounded with *red vessels*, to carry on within it the development offices. The cell, like a growing tooth, is magnified and raised up so rapidly, that, like the gum over the tooth, the stroma around the Graafian cell becomes turgid, succulent—almost inflamed, we might say. Under such circumstances, what wonder have you to find the whole ovary swollen and turgid, or the womb itself affected in the same way? what wonder to find the woman complaining of pain in the ovaric region, and in the womb—of aching, with heat and sense of weight and dragging in the pelvis; or to find, on examination, that the uterus is larger, heavier, and more colored than in the inter-menstrual periods? The interior wall of the womb is highly vascular, and is lined by an epithelium of the greatest tenuity. The bloodvessels that abound beneath this epithelium, easily give rise to the bloody discharges whenever the hyperæmia rises to a certain height or intensity, for the turgid tubes easily allow of its extravasation.

In fact, the womb, previous to the disengorging out-flow of the menstrual blood, is redder and heavier, and more succulent than when it has been fully acquitted by the discharge. It is proved to be so upon examination in life, and the necroscopic examination confirms it to be so; what more! It is bootless to talk about it any further, for if the foregoing cannot, nothing can convince you, and I shall, therefore, desist from any further remarks for the present. Farewell. C. D. M.

LETTER XXXI.

Gentlemen: I concluded my last letter with remarks on the periodical turgescence or hyperæmia of the reproductive organs, caused by the rapid march of development in the last days of the maturation of the ovulum.

It is necessary that I should, in this present communication, explain the causes of the rise of the yelk from the centre of the stroma to the surface, whence it is ultimately destined to escape; and in making this explanation I cannot avoid speaking of the corpus luteum, a yellow

body which is discoverable in the menstruating ovary, and more sensibly, in the ovary of the gravid animal.

I have to beg you would remember that the title of this volume, which treats of woman, her diseases and remedies, gives me a very general warrant as to the choice of topics, so I but keep within the real boundaries of my subject; and I believe I shall not go beyond those bounds if I now address you on the subject of the corpus luteum. I deem it, also, a matter properly related to the doctrines of menstruation, and one which it is requisite that you should take into consideration in your study of that important physiological function. I read a paper on the subject of the corpus luteum, which the American Philosophical Society has published in the *Transactions*, vol. x. New Series, p. 131, and the substance of that memoir is contained in the following remarks which I offer to you as part of what I wished to say in connection with the subject of menstruation.

While I was engaged, in the winter of 1847, Dec. 18th, in my lectures at the College, and during my preparations for the lectures on this point, I became convinced that the views heretofore entertained as to the nature of the corpus luteum were so unsatisfactory, at least to my own mind, that I made some experiments which led to the inference that the corpus luteum is a vitellary body; I mean a body composed of the same material as yelk of eggs.

Since the date of those lectures, I have carefully made researches, by means of the microscope and other methods, as to the comparative appearances presented by fresh vitellary matter taken from a hen's egg and matter collected from fresh corpora lutea.

These researches suffice to convince me that the yelk of eggs, and the yellow matter from a corpus luteum, are of the same apparent constitution, form, color, odor, coagulability, refractive power, and microscopic appearance.

Having placed a small quantity of yelk on the platine, I was struck with the appearance of a yellow light filling the whole tube of the microscope, just before the object is brought into the focus of the instrument.

Whenever, in like manner, I have placed a bit of fresh corpus luteum of the cow or sheep on the compressor, and had crushed it by turning the screw, I found the tube filled with the same yellow tinted light before obtaining the focus.

A portion of yelk placed beneath the objective, and examined with a strong power, exhibits numerous granules, corpuscles containing a yellow fluid, oil-globules, and a quantity of punctiform bodies, floating in a transparent liquor.

Upon turning the screw of the compressor upon a mass of corpus luteum, carefully dissected out from the ovary, there is, in like manner, seen to escape from the crushed object a quantity of granules, corpuscles filled with yellow fluid, oil-globules, and punctiform bodies, swimming in a pellucid liquor.

The appearances observed upon examining a portion of yelk, and a portion of corpus luteum, are so similar that it would be difficult to discriminate between them, but for the exception that, along with the granules and corpuscles, oil-globules and puncta of the corpus luteum, there will be found flakes of laminated cellular tela, blood-disks, and other detritus of the organ destroyed by the compressor.

The transparent corpuscles transmit a yellow light, whether observed singly, or in clusters or acervuli.

The same is true of the corpuscles of the yelk.

Upon crushing a bit of corpus luteum in the compressor, there escapes much granular matter, that accurately resembles the granules of the granular membrane, the retinacula, or the proligerous disk of the Graafian follicle. This is the case where the very greatest care has been taken to procure the bit from the outer portion of the yellow body, so that no portion of the crypt could be invaded. All the portion used was from the inner substance of a corpus luteum.

This similarity of appearance leads me to infer a similarity or even identity of nature and origin. I think no person, accustomed to the use of the microscope, could detect any difference between the molecules pressed out of a bit of corpus luteum and those that escape from a ruptured mammiferous ovulum (as of the cow or sheep), or those that are seen in common yelk of egg, except the debris or detritus, before mentioned, should signalize the difference.

I have so many times examined the mammiferous ovulum, that I suppose myself to be quite competent to compare its contents with those of the corpus luteum, and with that of the bird's egg; and I feel that I am entitled to say with confidence that the chief constituent bulk of a corpus luteum is a true vitellary matter, deposited outside of the inner concentric spherule or ovisac of the Graafian vesicle; that is to say, the vitellary matter of the corpus luteum is deposited betwixt the inner and the outer sacculus of the follicle.

As to the correctness of this opinion, I must defer to the future observations of the micrographers, who may be able to confute or to confirm my statement and opinions.

No author has expressed a similar opinion as to the constitution of the corpus luteum. That substance has been the fruitful topic of elaborate discussions, and of researches, and hypotheses, for many years

among the learned, in consequence of the importance of the subject, both in a physiological relation and in a medico-legal application.

It is surprising to observe how much has been said about it, without coming to any reasonable conclusions. You ought to know that, previous to the year 1825, nothing was, in fact, clearly understood about it; but that in that year, John Evangelist à Purkinje, of Breslau, in Silesia, discovered the germinal vesicle in the unfecundated egg of the barn-door fowl. In 1827, Ch. Ernest Von Baer detected the mammal ovulum with its germinal vesicle. In 1830, Rudolph Wagner ascertained the macula germinativa or germinal spot. You may therefore safely venture to say that, antecedently to these epochs, viz., 1825, 1827, 1830, all talk, all discussion, and all opinion on the mammal ovum was naught. Hence, I should think it bootless here to ask what the writers previous to 1825 may have said or supposed about it.

Of those who have written concerning the corpus luteum since the above dates, I have to say, as to the constitution of the yellow body, that Drs. Carpenter, J. Müller, Thomas Schwann, Henle, and Huschke, have not even hinted as to its vitellary nature. Dr. Henle, in his *Algemeine Anatomie*, says: "So weiss man namentlich, wie die Graafschen Bläschen, in Folge der Congestion, welche dem fruchtbaren Beischlaf folgt, zuerst anschwellen und denn platzen, während sie zugleich von Blut angefüllt werden, welches sie allmählig entfärbt, organisirt und in eine Narbensubstanz verwandelt, die zuletzt verschwindet"—p. 894.

In the passage here quoted, Dr. Henle attributes the swelling and the bursting of the Graafian follicle to the congestion attending a fecundative union of the sexes. He says the ruptured cell is filled with blood which colors it, becomes organized, converted into a scar-like substance (narbensubstanz), and after some time disappears.

Dr. Huschke, in his Treatise on *Splanchnology*, though he elaborately details the opinions of authors on the corpus luteum, yet nowhere alludes to the vitellary nature of that substance.

Messrs. Gendrin, Négrier, Robert Lee, Wharton Jones, Raciborski, Ollivier d'Angers, and Pouchet, make no such allusion; they all enter into details of the literature of the subject.

Dr. Montgomery, Dr. Swan, M. Flourens, MM. Velpeau, Moreau, Jacquemier, Cazeaux, and Chailly, are silent as to the vitellary constitution of the yellow body.

Bernhardt, who was assisted in the preparation of his *Symbolæ ad ovi Mammalium Historiam ante Prægnationem*, by Dr. Valentin, and in which admired work you may find a complete deduction of the whole literature of the corpus luteum, alludes not to its vitellary nature.

The celebrated letter of Professor Von Baer, *de Ovi Mammalium et*

Hominis Genesi, says of the corpus luteum, at page 20: "Me judice, minime corpus novum est, sed stratum internum thecæ majus evolutum," which sets forth with sufficient clearness and great conciseness the opinions entertained in the rest of the paragraph.

Dr. Bischoff, of Heidelberg formerly, but now of the University of Giessen, in his *Entwickelungsgeschichte der Säugethiere und der Menschen*, says, at page 33: "Wenn man die erste Entwickelung des gelben Körpers unmittelbar nach Austritt des Eies bei Thieren beobachtet hat, so kann man darüber nicht in Zweifel sein, dass die Bildung seiner Masse von der innern Fläche des Graafschens Bläschens ausgeht. Da sich nun hier die aus Zellen gebildete *membrana granulosa* befindet, und dieselbe als gelber Körper erkennbare Masse gleichfalls aus Zellen besteht, so ist es wohl gewiss, dass von einer stärkeren Entwickelung dieser Zellen der *membrana granulosa*, die ich auch in der Periphärie des Eies noch nachweisen werde, die Bildung des gelben Körpers ausgeht."

From the above passage, it appears that M. Bischoff was not far from discovering what I suppose myself to have discovered—I mean the vitellary nature of the corpus luteum; since he says it is composed of cells, and proceeds from the inner membrane of the Graafian vesicle. I shall make for you no further citation of authoritative opinions here; but I pray you to observe that, if the concave superficies of the true ovisac, or inner concentric sac, is indeed charged with the function of producing or excreting the corpuscles of the vitellus of the ovulum, or the material of them, which cannot be denied, there is no difficulty to conceive that the convex or exterior surface of the membrane may exercise the same function, as dominant of the elective affinities, which must be supposed to effect this as well as every other *vital* excrete. Such a supposition is not a wresting of physiology, and it finds abundant support in the analogy of the organs; as, for example, in the periosteal and medullary membranes of bone, which, under certain circumstances, are known to alternate their functional forces. The medullary membrane, in the cases alluded to, comes to be a depositor of phosphate of lime, instead of a remover, its natural office; whereas the periosteum, in turn, becomes a remover, instead of a depositor, its normal function. This mutation and interchange of powers, as to the inner and outer membranes of bone, have been too clearly exhibited and demonstrated by M. Flourens, in his admirable paper on the reproduction of bones and teeth, to admit of any doubt or cavil. But I am very far from claiming this illustration as proof in favor of my views, strong as I might deem it to be. It seems to me sufficient to know this, namely, that vitellary matter is germinal matter, germinal cyto-blastem, and

that it is the office of an ovary to produce it, and that nothing else in nature can produce it.

It is with real deference to the opinions of persons more learned than I, and far more versed than I am in the use of the microscope, that I make public these opinions, which, I am well aware, cannot stand upon my single testimony. I therefore readily confide in the opinions to be hereafter formed as to these views by the micrographers, and I doubt not MM. Pouchet, Bischoff, Wharton Jones, or others, will confirm or reject these views according to their own more able observations, to be hereafter made. I refer to my *Obstetrics*, 2d edition, p. 134, for a citation from Prof. Coste's work on the Development of Organized Bodies, which shows how very similar are the opinions he expressed in 1849, on the subject which I first made public in 1847.

As to some points of resemblance not yet mentioned, I have to observe that boiled corpus luteum becomes, like boiled yelk of egg, very hard, and in like manner friable and granular—leaving a yellow stain upon the fingers, or on white paper, when rubbed on them. Dr. Thomas Schwann says he found the corpus luteum to become hard, coagulated, granular, and friable, upon being boiled.

I threw a portion of fresh corpus luteum on a live coal; it gave out the odor of roasted egg.

Hence, in coagulability, in friableness, in staining yellow, in becoming granular, and in yielding, when burned, the odor of roasted eggs, the corpus luteum resembles vitellus as much as it resembles it in its microscopic characters.

I think that these circumstances warrant me in forming the opinion that the corpus luteum is a vitellary body.

In reflecting upon this subject, the question arises, are the granules and corpuscles of the corpus luteum cytoblasts and cells?

I endeavored with a very high power to make out the nuclei of the corpuscles, but could not succeed in doing so; nevertheless, I cannot suppose that the invisibility of a nucleus is to deprive a body of the character of the cell. Even Dr. Schwann himself, at page 204 of that wonderful work, the *Mikroscopische Untersuchungen*, says: "Die kernlose Zellen, oder richtiger ausgedrückt, die Zellen in denen bis jetzt noch keine Kerne beobachtet worden sind, kommen nur bei niedere Pflanzen vor, und sind auch bei Thieren selten;" and he cites as samples of the non-nucleated cell, the young cells within the old cells of the chorda dorsalis, the cells of the yelk of the bird's egg, &c.

Whether the non-nucleated corpuscle be a cell or not, it is very certain that the milk corpuscle, and probably the chyle corpuscle, are of that nature; and no one can contemplate the evolution process of a

corpuscle or spore of saccharomyces cerevisiæ, without admitting for it all the qualities and development forces of the mother cell; it is to the last degree reproductive; while the filiform fungi, the muscardine, and many other sporiferous bodies claim to possess the same metabolic and formative powers.

Supposing that my view is sound as to the vitellary nature of the corpus luteum, then you will observe how beautifully simple and concise is the machinery or apparatus by which the ovulum is brought to the surface and deposited ready for fecundation, on the ovarian indusium or within the fimbria of the Fallopian tube.

In the bird's egg, which, as in the ostrich and the cassowary, contains a gigantic yelk, the simple augmented tension of the membranous sacculus of the ovary suffices to open the ovisac upon its hila. The same happens in the immense yelk of the larger ophidians, as the coluber Boæformis, figured by Dr. Swan, and indeed in all the membranous ovaria.

But, in the dense tissues of the mammal ovarium, a special provision for the opening of the porule or hila, for the escape of the ovulum, was required.

How has it been effected? Is it not as follows?

The function of stroma is to produce germs and vitellus. When the production of the germ on the inner face of the vesicle buried within the vitellus is completed, the ovulum is ripe; it has attained its generical magnitude and weight; but the stroma continues to supply the vitellary matter; it deposits it betwixt the two concentric spherules of the follicle. The inner spherule yields to the pressure of the increasing mass, and becomes convoluted as it is crushed inwards towards the yelk ball, giving rise to the appearances by Négrier denominated *bourses grises*. The outer spherule is driven outwards against the gangue of the ovarian stroma, and the deposit goes on, particularly in the cow and in swine, to a vast extent, making, in some instances, a mass of corpus luteum equal to more than half the volume of the ovary.

At the same time, the inner concentric, growing smaller and smaller from the pressure towards its centre, lifts the yelk ball to the albuginea and indusium where the resistance is weakest. The cavity of the follicle becomes reduced nearly to nothing, as the pressure augments, until at last the porule, being established by the absorbents or by rupture, the yelk ball escapes, along with its granular membrane, in fragments, leaving a crypt which fills with coagulated blood. The crypt being contained within the yellow mass of vitellus called corpus luteum, at some stage, as yet unascertained, disappears, and the vitellary deposit that envelops it begins to be absorbed as soon as the vitelliferous forces

of the stroma become determined towards the development of another follicle. It would be unreasonable to suppose that, upon the escape of the ovulum, the yelk producing force and activity should be immediately suspended: it is even probable that the corpus luteum may continue to augment for a certain but unknown short period after the escape. And, inasmuch as corpora lutea are supposed to be more considerable in ovaries of pregnant women than in the non-gravid, it may be, perhaps, reasonable to infer that the state of pregnancy reacts upon the ovary in a way to augment the size, and add to the duration of the luteal body.

It is a periodical exacerbative or paroxysmal force that develops the ovulum. It is employed first upon one and next upon another germ point, and so on throughout the reproductive life of the woman or the animal; at the pairing season of birds; the rut of the mammals, and the reproductive periods of the reptiles, fishes, and insects.

I am surprised to find that some able and distinguished writers still cling to the antiquated notion of ovarian fecundation. But I presume that M. Pouchet's illustrated work on ovulation will put to flight all cavils on that point.

No woman can menstruate but in coincidence with the spontaneous ovi-posit. Every ovi-posit is followed by a corpus luteum, except where a failure of development may possibly, as a disease, prevent it. The corpora lutea are of various sizes. Many women have scarcely discernible ones after conception. I recall to your memory the gravid uterus with its young seven months' fœtus, in my collection, in which no trace of a corpus luteum is discoverable.

The true and false corpora lutea of Dr. Montgomery are all equally true corpora lutea; and though different in size, are not essentially different in nature.

My letter would be far more satisfactory to me, were it in my power to accompany these pages with copies of M. Pouchet's exquisite colored drawings of these objects; but it is not in my power to do so. I warmly recommend them to your attentive and careful study.

And now, gentlemen, do you ask me what is the use of all these remarks on the corpus luteum? I answer, that my letters are about *women*, their diseases, and remedies. You would not understand the nature of women if you should not study their corpora lutea.

In studying their nature and offices, you may find a key to much admirable pathology. In my own mind, there has long existed not the least doubt as to the power of these luteal bodies to develop the very beginning of lying-in diseases, and others. In fatal childbed fever, it is common to discover on examination after death, one of the ovaries

in such a state of disorganization, that we cannot doubt of its having been the seat of the primary area of the inflammation whose spread had destroyed the life of the subject. Is it unreasonable to imagine this starting-point of the destructive train to have been an uncured, unrecovered corpus luteum?

If, in a court of justice, you should ever come to stand as a witness, subject to the interrogations and cross-questionings of a lawyer, you would be thankful for the whole history of these bodies, as given by Bernhardt, and *à fortiori*, you would be happy to save some person accused, from the gross misjudgments of lawyers, judges, and juries, who might condemn an innocent person, out of their ignorance of the true laws of ovulation and the spontaneous ovi-posit in the human female.

It was on the 18th December, 1846, that I read my paper on the corpus luteum before the American Philosophical Society, which was ordered for publication in the *Transactions*. Deeply convinced as I was that I had fallen on a true and demonstrable rationale of the corpus luteum, I was willing to wait for the decision of the learned as to the truth of my explanation. Some of the reviewers treated me with less than civility for my innovation; but I perceived that they had condemned me on a *prima facie* examination, and that their opposition depended rather upon a usual reluctance to abandon opinions already adopted, than on any improbability of the truthfulness of my statement of the subject. Professor Coste, whose 2d part of his first volume *On the Development of Organized Bodies* was published in the summer of 1849, has adopted my views nearly as to the vitellary nature of the luteal body. M. Coste regards the inner membrane of the Graafian follicles, and not the magma reticulatum lying betwixt the inner and outer cell, as the seat of the cell deposit. It is a matter of small moment this, though I by no means yield my opinion to the authority of even so great a name as his.

Having sent my paper, which was published in the year 1847, to M. Coste, immediately after its publication here, I cannot withhold the expression of the surprise with which I find him acknowledging the receipt of it, and at the same time saying (in 1849, two years later) that I have arrived at the same conclusion with himself on this subject—that is to say, he got my paper in 1847, and adopting my exposition nearly, says, in 1849, that I have attained to the same views as those he so elaborately sets forth. In order that the American student may have an opportunity to become acquainted with M. Coste's views, I here translate, from his *Dev. des Corps. Org.*, p. 251, the following passages :—

"Indeed, upon examining with the microscope the texture of the internal layer of the capsule a short time before the period of its

rupture, we find that, in addition to its abundant vascular network, it is exclusively composed of small vesicles or cells, each containing colorless molecular granules; but, immediately after the dehiscence, they become so greatly developed that, when the convolutions fill up the cavity, they are found to be five or six times larger than they were at first. Hence it follows that the membrane whose wall they constitute must be proportionably thickened. It also becomes softer, and more friable, because they cease to cohere so strongly as at first, while the wall itself becomes softened. This is the reason why, at a certain period, the capsular convolutions acquire an encephaloid appearance, a result of modification both of the constituent vesicles and their contents, as I shall proceed to show. In process of time, a stage is reached in which the disunion of the vesicles is so easily to be effected that it may be done by merely scraping the capsule which detaches nearly the whole of them, after which nothing is left save the marked vascular branches that run along every plait. I have made this preparation in several follicles, previously injected, so as to be able to see the facts in the clearest manner, and as I have before described them.

"In proportion as the constituent vesicles enlarge, their contents are appreciably modified. In the cavity of each one of them is formed an innumerable quantity of molecular granules, which render them more and more opaque, and which under the slightest pressure pass out through the containing walls, that give way by laceration. These granules are remarkable not only for their number but also for the yellow tinge which slightly colors them. Now, as they are very abundant and closely packed within the vesicles that contain them, it follows that the yellow tinge that is slight in the individual granules becomes very decided, as for the whole mass of them. It appears that something takes place here like what occurs in the vitellus of the bird while taking on its yellow hue. I have indeed already said, while explaining the material condition of this phenomenon, that it is produced by the crowding together of the granules with which the yelk corpuscles are gradually filled, and by the admixture of the oleaginous particles that are disseminated in it. The color of the corpus luteum seems to depend upon an analogous arrangement of the material contained in the voluminous vesicles that compose its mass, &c."

Let the student do me the favor to compare this account by the learned Frenchman with that in the first edition of this work, and I feel sure he will do me the justice to admit the priority of my solution of this long-questioned problem. I beg leave to make one more quotation, which is from Coste, p. 268:—

"Baer first understood the mechanism by means of which the plaits

or convolutions are produced. Pouchet showed how they become thickened; I think I can establish the fact that the color of them depends exclusively on the nature of the molecular granules or the globules with which the cells that form these walls are filled, and not at all, as supposed by Raciborski and Pouchet, on an extravasation of the coloring matter of the blood. I have observed, with pleasure, in a pamphlet sent to me by Dr. Meigs, that, in the last respect, that observer had come to the same conclusion as my own." ! !

C. D. M.

LETTER XXXII.

Gentlemen: My last letter was occupied with an account I desired to lay before you, of my views relative to the corpora lutea, one which I considered it proper to introduce into the series of remarks on menstruation. I know not what you or others may think of the idea set forth therein as to the vitellary nature of that body; but I hope, whatever may be your opinions on that point, that you will, at least, agree with me in considering those bodies as a part of the normal results of the mensual ovulation, for that is the main point; and that is the point of interest in any medico-legal discussion or testimony you may hereafter happen to be engaged in. Is it not also worth your while to inquire, hereafter, what may be the concern which these corpora lutea have in developing certain of the disorders connected sometimes with the acts of menstruation?

Having said what I wished to say to you on the corpus luteum, we shall now, if you please, proceed with our observations on the menstrua.

From what has already been remarked, I presume you have perceived that, in contemplating the nature and laws of the catamenia, I adopt the notion that the act of menstruation, rigorously construed, consists in the periodical maturation and deposit of an ovulum; of which act the flowing of the menstrual blood is but the outward and visible sign—so that, in fact, a woman may menstruate very regularly and exactly, without having the least hemorrhagic sign of that menstruation. Doubtless many women are perfectly regular who give no outward sign of it. Do you doubt the truth of this proposition? If you do, then I ask you if it be not proved by the fact that a great many women who give suck do not have their courses until they wean the child. It is true, however, that a great many women, during their lactation, find

themselves regularly unwell from the seventh month; and it is also usual to observe that a woman lying-in, has a return of the courses six weeks after the birth of the child. This is so generally the case, that I always expect my patient to be unwell again at the sixth week; and to be regularly menstruous from the seventh month. This is the rule; the exceptions are in those women who never *see* until they wean the child, of which class the number is large. For example, *April 27th*, 1847.—Mrs. ——d told me this day that she never saw her menstrua while nursing, nor until three months after she had weaned the child. This is her fourth child; she is a small and very delicate person. One of her children was suckled for thirteen months.

Brierre de Boismont says, at page 159, that he inquired as to the return of the menses in eighty-two women who had been confined.

In	1	the menses returned	immediately after the labor!	
In	1	"	"	in 8 days!
In	2	"	"	in 15 "
In	4	"	"	in 3 weeks.
In	9	"	"	in 1 month.
In	38	"	"	in 6 weeks.
In	7	"	"	in 5 to 6 weeks.
In	7	"	"	in 2 months.
In	6	"	"	in 3 months.
In	2	"	"	in 4 months.
In	3	"	"	in 5 to 6 months.
In	2	"	"	in 7 to 8 months.

M. de Boismont's statistical return ought not, I think, to influence you in your opinion. I feel very sure that a much truer statistics than the above is the one in which I told you that your patient may expect it to return in six weeks; and then become regular, and continue so, from and after the seventh month. But statistics often fly in the face of opinions as well as of the truth as acknowledged in the world, or by the public whom it may concern.

You ought, further, to learn that some women do not *see* from the time of their first conception until they have borne a considerable number of children, because, becoming fecundated while they are nursing, they carry out the pregnancy to term, become again *enceinte*, and so on, never seeing their courses, as I said, until, being no longer impregnated, the ovulation is marked by a natural return of the mensual hemorrhage. I have met with several samples of this kind; and they are so abundantly recorded in our books that there is no need to cite the cases; you may set it down as a fact, that it is so, with not a few women. How could it be otherwise with those women who have a child every year, or

every eleven months! I have seen a child born at ten months after its antecedent.

Now, supposing the ovulation and spontaneous deposit of the ovule to be the true doctrine, do you not see that these suckling women, in question, did really produce ovules for fecundation, though they did not have the menstrual discharge? They could not conceive else. I deem it no matter of surprise that they had not the menstrual discharge, because I can perceive, in the function of lactation, an action derivative from the internal genitalia to the mammary glands, of power sufficient to turn aside the determinations of the constitution, whether sanguine or nervous, from the genitalia to the lactiferous apparatus. Many other things turn it aside in the same way. There are many women who may be presumed to have the inward menstruation, *videlicet*, the ovulation, without any bleeding; a case that may take place without the least shock to the woman's health. A young woman, for example, may have reached the proper age for menstruation without having seen the sign, or show. She may be married, conceive, and bear a child, suckle it, and at the end of seven months have her first menstruation. This has been observed to happen more than once. Who can doubt that she had matured and deposited her germs, which were fecundated after her marriage? Or will you go back to the idols, and embrace the old doctrine that the germs were fecundated in the ovaria? If you will go back to your idols, I have nothing to do but "let you alone."

You might well suppose that pregnancy will put a stop to the ovulation—and perhaps, in a majority of cases, it is true that, when the womb has once fairly begun its career of gravid development, the sanguine and nervous forces of the reproductive organs are so completely absorbed in the business of gestation, that the ovarian function is suspended, or proceeds but slowly and feebly at most. Yet there are pregnant women, not a few, who have regular mensual returns for three or even four months. I had a patient here who was regularly unwell up to the eighth month, when I attended her. She went out her time, and was laid at the ninth month.

Moreover, some women have the most insuperable tendency to miscarry, and those miscarriages are found to take place at the period of their usual menstruation—in fact, the major part of the abortions and threats of abortion, you are hereafter to meet with, coincide with the women's catamenial periods; a fact very important for you to know, because, you ought to take measures to obviate the danger at the time—and when the time is passed relieve the patient from the onus of an unnecessary treatment.

All the foregoing may suffice to show you that you are not to take in

hand every female who does not have the show just at the time it is expected, and that you may feel at liberty to suppose her constitution does not suffer the least injury; for, while she does not seem to be regular, she is, in fact, perfectly regular; that is to say, she regularly matures and deposits her germs—for that is the physiological act of menstruation, and nothing else is. That is what her constitution requires her to do. If she bleeds, it is well; but she is often found to be well even if she does not bleed a drop. Is it not so with the suckling woman? I am glad to have an opportunity to tell you these things, for I hope they may have the effect to make you keep clear sometimes of the drugging process which is too apt to be set on foot the moment a lady complains of amenorrhœa. Let me here mention, that I have met with several instances in practice, of women who had grown up and become wives, who after marriage were found incompetent to the sexual congress: a careful and regulated diagnosis convinced me that these were persons in whom no womb had ever been developed, and I suppose the cause of this want, was an arrest of development of the organ in a very early stage of the embryonal life. Nevertheless, seeing that these women were very healthy persons; with all the outer characteristics of the perfect woman, having abundant hair on the head, and on the pudenda; with well-formed breast and strong sexual desire—even uncommonly strong and insatiable; what reason is there left for us to doubt of their possessing perfect ovaries? and if so, why should we doubt that they also were the subjects of a regular periodical ovulation?

I repeat, that these women were not only very healthy and strong, but even highly attractive by their form and beautiful physiognomy; yet it seems, they never menstruated, and never had any vicarious discharge; and hence, I conclude that for them to ovulate, was to fulfil the physiological act of menstruation, and that the loss of the blood from the womb is in general a minor and even indifferent phenomenon.

In a former letter, I said I had often seen young women lose their courses when brought to town and set on the school-form, though they yet retained all the outward appearances of valid health. Whenever I have been consulted as to such a one, I have made a very careful exploration of the rate and degree of the various functions; and when I have found that the intellection, the respiration, circulation, innervation, calorification, digestion, secretions, &c., were all normal, and that nothing was wanting save the menstruous show, I have let the patient alone; merely directing a close surveillance of her health, and proposing to interfere only in case some further signs of disorder should present themselves. The deviation in such cases I have attributed to the consumption of the nerve-force, the *neurosity*, by the hemispheres,

in the too constant operation of the powers of the intelligence. A holiday, or a return to their homes, cures them better than drugs. Do not, I pray, let me mislead you here. On the contrary, I repeat, that the state of the whole constitution should be carefully explored, and when therapeutical treatment is evidently demanded, see to it that the true indications be fulfilled.

I have now another topic to speak of, and that is, a case where you are called to a person who complains of a retention of the menses, appealing to you for relief.

The stupidest thing a physician can do is to be misled by such complaints to the administering of drugs and medicines, which may bring on, not the menses, but an abortion, or a premature labor. How can a man look more like a fool than he who suffers himself to be entrapped to the commission of such a wrong? What a snob!

If a woman comes to your office, or if you be called to her dwelling to speak with her on such a subject, you may perceive at a glance that she is sick; or you may as readily discover by a single look that she presents all the signs of the most consummate health. How can a woman exhibit all the signs of robust health, and yet fail of her menstruation, when she has always before been perfectly regular, and when neither disease, nor studies, nor misfortunes can be supposed to have had power to interrupt the course of a function always sure to be exercised when nothing stands in the way of its exercise?

I am far from advising you to be constantly on the lookout for sin and to be smelling out every possible iniquity. But I do advise you so to demean yourselves that you shall bring no discredit on yourself, or on your profession. Our profession, alas! has a vast weight of incompetency among its own asseclæ, and an immense onus of charlatanry among the whole race of quacks and pretenders to bear upon its ample shoulders. You will be in the good path if you determine early to give no occasion for additional scandal by your conduct as physicians. It will be your duty, then, in all these cases, not to suffer yourselves to be misled and imposed upon.

I was sent for to see a young woman. Upon reaching the house, her married sister said that she wished me to visit ———, as she was quite out of health.

"What ails her?"

"I suppose it is her courses; she has not been right for several months. Go up stairs, and you will find her in the chamber."

"Does she appear to be ill?"

"No, not at all."

She was sitting in a chair, bending over a tambour-frame, where she

seemed to be most diligently employed passing the needle in and out of the stuff at which she was working.

I observed that she blushed as I entered the apartment, and seemed agitated, whether from a modest timidity, or from a consciousness of impending disclosure. Her face was radiant with health and bloom, and her embonpoint was visible on her shoulders and arms.

She told me, in answer to my inquiries, that she had seen nothing for near seven months, but was very much swollen—was fearful of a dropsy—had no pain—good appetite, sleep, digestion, and strength.

The pulse was normal, except the slight precipitation, *à pathemate mentis*. She very reluctantly allowed me to place my hand on the abdomen, stooping the while over her tambour-frame. I held the hand there a long time, but could not discover any spontaneous motion, nor did I hint at the object I had in view—which was to discover the movement of a child. After some conversation, she allowed me to auscult the abdomen, which was as large and as regularly developed as in a gestation of seven months; upon adjusting the ear, I heard the click of the fœtal heart.

When I informed her of my discovery, she most indignantly denied it, and was angry with me for the liberty I took to say that she, an unmarried woman, was in the family way; but at length gave in, and made her arrangements for the accouchement—which was very happily effected at the due time. The child was taken kind care of, and is well. She refused to marry her seducer—but two years later married a worthy man, after informing him of her mishap. They live prosperously together, and are raising their hopeful children.

I am aware it would not be well to fill up this book with cases of this kind, of which I have met with a great number, some of them very curious ones. I have only recited the above to show you how easy it would be to have taken ——'s word as to her case, to give her a violent emeto-cathartic, some savine, ergot, or what not, and bring on a premature labor at the risk of her life, and to the discredit of our divine art. You never will make such a mistake, if you will make a good rule and follow it religiously. Let that rule be, *not to speak until you know*. If you will conjecture, if you will guess, let it be a conjecture, a guess, or a surmise; but when you *know*, then you can *speak*. Would you believe that I have witnessed a great many cases of the most ridiculous blunderings on this point! But it is not my duty to relate them. Take you good heed now; never guess, but always know, or else either hold your peace or confess your ignorance of the facts.

I need not again advert to the case of non-appearance of the menses

depending upon atresia of the organs, having already spoken of that accident in a former letter.

As to the quantity and duration of the menstrual discharge, I have to say that each woman, in good health, has a rate of her own. Some discharge one ounce of blood, and some twenty ounces at each period. The quantity a woman loses depends upon some peculiarity of her constitution. In like manner, the quantity a woman loses in her labor depends upon some such peculiarity. Many women bring a child into the world without staining the napkins and clothes about them, and I have many times taken away the placenta without a red spot on my hand; the woman afterwards having only a moderate lochia, not so considerable as the ordinary menstrua of other women. On the other hand, you will meet with patients who discharge a great deal of blood with the child, and always do so—while the post-partum discharge is also so considerable as greatly to reduce the strength.

The great matter in the diagnosis, then, is to learn the amount and to ascertain the constitutional wants or demands and habit of the patient herself.

One may be well enough able to judge of the quantity imbibed by a napkin; from one to two tablespoonfuls would render it uncomfortable. But a tablespoonful is half a fluidounce, then, twenty-four napkins would, by estimate, be twelve fluidounces. But it is often much more than that—for on some of the napkins there will be found from an ounce to an ounce and a half.

Haller, in lib. xxviii., sec. iii., says: "The quantity of blood discharged is various; it is greater in warm climates, being as much as a pound or even more—or it may be equal to ten ounces; or it may go to the extent of producing deliquium animi, and even death itself. In cold climates, the discharge may be six ounces, five, four, or it may be as low as three ounces," &c. He speaks of the effects of diet, showing that those who live well are more free in their menstrua than those who are compelled so subsist on spare and poor rations.

There is an observation as to the quantity of menstrual fluid produced in a given time, that is unique, so far as I know: it was made by M. Brierre de Boismont, and is found in his work on Menstruation, p. 172. He says that one of his patients had the *complaisance* to lend herself for the experiment, which was performed by adjusting a speculum to the vaginal cervix, which it exactly fitted. The cervix remained like a plug in the speculum for ten hours. By this means the product was collected, and must have been free from any admixture with the excretions of the vagina. The quantity of fluid that escaped from the womb was twenty-two grammes, which is a little more than an ounce.

At this rate, twenty-four hours would have produced nearly two and a half ounces. This person had had several children. She was thirty-five years of age. She was of a delicate constitution—her menses usually lasted eight days—probably she would usually lose ten to twelve ounces, therefore, at each menstruation.

When people consult me on these points, I am accustomed to inquire how many changes they have been in the habit of making during the whole menstruation. Now, many individuals have assured me they always use eighteen, twenty, twenty-five, and some of them thirty changes, in each mensual period. Others have employed only six—some three, and now and then I have met with a person who never used any in her whole menstrual life. Hence, it is easy to perceive what great differences there are among females as to the amount eliminated.

I am but little inclined, gentlemen, to enter upon any further discussion as to the nature of the menstrual fluid, as to whether it be a secretion from the arteries or the veins. Such discussions are of little profit. At least, I am so fixed in the belief that I am correct in calling it the mensual hemorrhage, that I shall probably never adopt any other view of it; and it therefore appears to me idle to endeavor to reason one into the belief that it is a secretion—in the same sense that bile, or saliva, or milk are secretions. The menstrual fluid is blood. All writers and authorities are not agreed upon this point. Among others, I may mention that Mr. Hunter regarded it as differing from blood, on account of its not coagulating; but it does coagulate. Dr. Burns, the author of a System of Midwifery, was of the same opinion, as is also Professor Chapman of the University of Pennsylvania (see his note at p. 106 of James's Burns). The late Professor Dewees, in his *Treatise on Diseases of Females*, at p. 87, observes: "I adopt the opinion that the menstrual discharge is a genuine secretion," &c. It is unnecessary to cite a great number of persons of the same way of thinking. I merely cite the above to show you that the opinion is held.

I have had pretty numerous opportunities of inspecting the menstrual product, and I remain convinced that it is blood—but I am ready to pin my faith in this matter to the sleeve of a person better qualified to judge of it than you or I. I mean the late Madame Boivin, author of the *Memorial sur l'Art des Accouchemens*—long Sage Femme en chef of the Maison d'Accouchemens at Paris, and author of the admirable *Treatise on the Diseases of Women*, &c. Her writings prove her to have been a most learned physician, and, as she enjoyed a very large practice, her science and her great clinical experience, as well as her own personal knowledge, are more to be relied on than that of all the

male physicians together. She says: "The blood of the menses is just like that which is taken away from a vein."

I say, I rely more upon Madame Boivin than upon anybody else. I do not see what particular privilege we men have to know best what the discharge consists of. I do know very well that women have a sensibility, a shame-facedness about it that makes them very reluctant even to talk about their courses, and they are very far from exhibiting the material. A woman will get drunk, she will prostitute herself for a shilling, she will walk in the public streets in rags and filth, she will curse and brawl, and become in all respects utterly, thoroughly profligate and debauched, but she will not show her napkin if she can avoid doing so. She conceals her menses from all eyes but her own, insomuch that even where her moral faculty has become a hopeless, cureless ruin, where decency and the last remainder of womanly modesty are clean gone, she still clings to the inherent respect and shame that she feels on account of this strange function of her body. She always dislikes to talk of it, and abhors the open exhibition of it. It was unclean in the sight of all Israel. How then are we doctors to become the best judges of it? We may practice physic for half a century, and have a few rare occasions to inspect it, and those only when it is morbid. I say it again, I consider Madame Boivin's declaration worth more than the contrary opinion of a Consistory of Physicians.

MM. Andral and Gavarret, in their frequent analyses of human blood, setted down to the conclusion that healthy blood, say 1,000 grains, contains of

Water	790 grains.
Globules	127 "
Albumen	80 "
Fibrin	3 "

The analysis by Becquerel and Rodier, of blood of eleven men, gives the following mean result on 1,000 grains—

Water	799.0
Solid constituents	201.0
Fibrin	2.2
Fat	3.2
Albumen	69.4
Globules	141.1
Extractive matter and salts	6.8

I have quoted the above stated analyses of blood in order that you may be able to compare them with the following analyses of the menstrual fluid.

M. Brierre de Boismont, in his work on Menstruation, gives at p.

172 this analysis, by Denis, of the menstrual fluid of a healthy woman aged twenty-seven years. It appeared to him to be a mixture of blood with mucus, and consisted of

Water	825.00
Globules	64.40
Albumen	48.30
Extractive matter	1.10
Fatty "	3.90
Saline "	12.00
Mucus	45.30

The patient of B. de B., who has been already mentioned, agreed to allow a portion of menstrual fluid to be collected in such a manner as to prevent any admixture of vaginal mucus. This was done, as I said, by adjusting the mouth of a speculum uteri upon the cylinder of the cervix. The fluid passing through the tube was collected from the other end. It yielded to the one hundred parts of

Water	90.08
Fixed matter	6.92

The fixed matter was composed of

Fibrin, albumen, and coloring matter	75.27
Extractive matter	1.42
Fatty "	2.21
Salts	5.31
Mucus	10.79

Rindskopf (*vide* Simon's *Chemistry of Man*, 337) found the menstrual fluid acid, and it contained

Water	820.830
Solid residuum	179.170
Salts	10.150

In a second analysis, he found

Water	822.892
Albumen and hæmato-globulin	156.457
Extractive matter and salts	20.651

Simon's analysis:—

Water	785.000
Solid constituents	215.000
Fat	2.580
Albumen	76.540
Hæmato-globulin	120.400
Extractive and salts	8.600

Dr. Letheby, *Lancet*, May 2, 1845, analyzed menstrual fluid delivered from an imperforate hymen. It contained

Water	857.4
Solid constituents	142.6
Fat	5.3
Albumen	69.4
Globules	49.1
Hæmatin	2.9
Salts	8.0
Extractive	6.7

Now that I have laid before you these statements of analysis both of pure blood and of the fluid of the catamenia, I leave you to judge whether the menstrual discharge is a mensual hemorrhage or a menstrual secretion. I presume you will feel inclined to look upon it as a periodical hemorrhage, like a periodical epistaxis, exhibiting modified appearances according to the quantity of epithelial scales and mucus that happens to be combined with it. For my part, I follow Madame Boivin, and I prefer her authority even to that of the chemists and micrographers. I beg leave to repeat that although, in the course of a long practice, a physician does meet with occasions where, upon some difficult diagnosis, he must ask the privilege to examine the napkin, it remains true that a woman in health never calls in the doctor upon that point at least, and that when he does find a necessity to examine it, there is disorder or suspicion of disorder. Wherever you shall *see* it, you are to suspect its quality to be abnormal. But, what's the use of quoting authors, or asking what A, B, and C think about it. Think about it yourselves, and ask yourselves whether there is blood in the menstrual fluid. Yes? Then how can blood-corpuscles be secreted? You might as well secrete a watch or a pair of boots! blood may be effused or extravasated, it cannot be secreted.

Having laid before you the analysis and shown you what the material is, and hinted at the difficulty of examining it, I hope you will allow me to say a few words that are germain to those hints, and will not much interrupt the regular course of our studies of the subject. I wish you again to consider how difficult it is for us to be sure that such portions as we see are not diseased, or at least abnormal specimens. Let me beg you, in order to show how modest women are upon this subject, to remark, that while in this populous city, of more than 450,000 souls, half of whom are females, multitudes of them thronging the streets and the markets, you never saw one of them, no, not one, who allowed a single drop to stain her stocking, or spot the thin dress that she wore. You never met with such an *horreur* at the cotillon party, nor with those who waltz or move in the Polka or Cachuca. I know not how I could give you a more striking proof of the regard, the

respect, I was going to say the superstitious veneration with which the sex observe all the obligations of a perfect *convenance* on this subject. The fact is, that the sex have learned, by a time-honored tradition handed down through the mass of mind from age to age, that their life, health, comfort, fruitfulness, and beauty, have a strong alliance with and dependence upon this office. It has become, therefore, a public sentiment—a she *vox populi*, *vox Dei*—that commands it to be respected. Take good heed, then, that you always treat it with respect in your conversations, inquiries, and directions addressed to your patients and their friends and nurses.

If I had time, I could give you an account of many superstitious observances and opinions relative to the catamenia that still linger even among some of the better informed of the people. To show you how ancient is the respect with which it is still regarded, you should advert to the story of Jacob and Laban. You remember that when Jacob fled with his beloved Rachel, they carried off a part of the worthy father-in-law's images.

In the 31st chapter of Genesis, the story is told in the following words: "And it was told Laban on the third day that Jacob was fled. And he took his brethren with him, and pursued after him seven days' journey; and they overtook him in the Mount Gilead," &c. "Now Jacob had pitched his tent in the Mount: and Laban with his brethren pitched in the Mount of Gilead. And Laban said to Jacob, What hast thou done," &c. "Yet wherefore hast thou stolen my gods?" &c. "And Laban went into Jacob's tent, and into Leah's tent, and into the two maid-servants' tent; but he found them not. Then went he out of Leah's tent, and entered into Rachel's tent. Now Rachel had taken the images, and put them in the camel's furniture, and sat upon them. And Laban searched all the tent, but found them not. And she said to her father, Let it not displease my lord that I cannot rise up before thee; for the *custom of women* is upon me," &c. Here you see at how ancient a period it was the custom of women to be unwell—and what is more, you see a man who, with an armed force, had pursued his runaway family for seven days' journey, manifestly with the most violent anger and eagerness, to recover his idols; yet who, for the simple words *custom of women*, went out of the tent without making the lady violate the *convenances* belonging to her sexual custom. If she had not made this pretence, do you doubt that he would have dragged her from her seat to find the precious gods in whom he put his trust!

The Hebrew Lawgiver doomed every Israelitish man to death that should lie with a woman at such conjuncture.

The 15th chapter of the 7th book of Pliny contains the following

passage, showing what impression existed as to this discharge among a polished people. "But woman is the only menstrual animal (*solum animal menstruale*), and therefore the only one whose womb produces what is called a mole. A mole is an amorphous mass of inanimate flesh, which can neither be cut with the edge nor pierced with the point of a knife."

"There is, perhaps, nothing in the world more monstrous than the menstrual fluid. Wine turns sour in its presence; seeds, when touched with it, lose their germinative faculty; hedges die; and seeds planted in a garden where it falls are burned up in the ground. If a woman, with the menses, sits upon a tree, its fruit falls. Mirrors lose their polish, knives their edge, and ivory its brightness by contact with it. Bees perish in their hives, and brass and iron are seized with sudden rust, and acquire a horrid odor if touched with the fluid. A dog that tastes it goes mad, and his bite is mortal," &c. The 7th chapter of his 28th book contains very copious details of the superstitious notions held concerning the menstrua centuries ago.

The periodical discharge is an indispensable attribute of the sex—I mean the healthful part of them; and no faith is to be given to the idle reports of travellers who pretend that certain nations or tribes in the interior regions of South America are devoid of it. Nor is greater regard due to the oft-quoted notion of Roussel, that the habit of this discharge is not a natural one, but one acquired in past ages, and now become a settled and regular attribute. Roussel is celebrated chiefly for his small volume, entitled *Système Physique et morale de la Femme*, a work praised greatly beyond its deserts, although it must be admitted to be written in a very pleasing style. In Chap. II. of the second part, where he alludes to the hemorrhagies, by means of which men escape from the evils with which they are menaced in the shape of rheumatism, hyponchondriasm, gout, apoplexy, &c., he proceeds as follows:—

"Women, from their sedentary and inactive mode of life, are less able to avoid them: the nature of their occupations favors the superabundance of humors which they possess in common with the male, instead of diminishing them, as in the case with the avocations of men; but then they have an excretory organ, by means of which they can be freed from the superabundant, and thereby hurtful humors. Animals that are not withdrawn from the empire of nature's laws, and that act under the guidance of instinct, have no need of this resource; they are not, like men, liable to hemorrhagies, nor, in consequence of such liability, to the morbific affections which they serve to introduce. These hemorrhagies have become a necessary function, intimately connected with the human constitution; so that, in the present state of things, a

woman is born with a tendency to have her menses at a certain age, as she is born with a tendency to take the smallpox; for we can contract a new necessity as we can contract a new malady. Were it possible to review all the changes through which the human race have passed since their origin, we should, perhaps, discover that they have not been always the subjects of the same necessities, the same functions, and the same diseases as at the present day. Having once contracted some vice of the constitution, or some new disease, which, beyond doubt, happens in all the species of animals, such vice, or such diseases, are transmitted from generation to generation, and perpetuated until some contrary cause arises to destroy them. This is the reason why races degenerate, and become changed in the lapse of ages. Thus the menstrual evacuation, being once introduced into the species is communicated by an uninterrupted filiation, so that we might say that a woman has her courses at the present era solely because her mother had them, just as she would have been consumptive if her mother had been so. And further, she may be subject to the menstrua even though the primitive cause that established this necessity of the female no longer subsists in her constitution. In fact, many women are regular who are not subject to plethora, nor a surcharge of humors. In these women, the menstrual flow depends solely upon the habitual direction of nature's movements, like the periodical hemorrhagies that occur in men whose constitutions are already exhausted."

Such are the views of the celebrated Roussel. You will readily perceive that, if such modifications of the human nature as he therein supposes to be possible can actually take effect, there are no bounds to be set to the range of modifications possible; and that, if Roussel's views are just, the doctrines of the *Vestiges of Creation* are equally true, as to the gradual evolution of new specific and generic forms of creatures.

It is not to be believed that Roussel would have entertained the opinion if he could have become acquainted with the functions of the ovaries, and the history of the early stages of the reproductive act. Pity for him that he was born before he had enjoyed the opportunity of reading MM. Purkinje, Von Baer, Wagner, Bischoff, Coste, Pouchet, &c. &c.

Having already drawn out this letter to a considerable length, I shall adjourn to the next a further consideration of the subject.

I am, &c., C. D. M.

LETTER XXXIII.

Gentlemen: The distinguished Professor of the Theory and Practice of Physic in the University of Pennsylvania, Dr. Chapman, begins, at p. 37, vol. ii. of his *Discourses on Therap. and Mat. Med.*, an enumeration of the names and the qualities of the Menagoga, or Emmenagogues. The entire suite of his articles comprises—

1. Polygala senega.
2. Juniperus sabina.
3. Rubia tinctorum.
4. Rosmarinus officinalis.
5. Mentha pulegium.
6. Secale cornutum.
7. Helleborus niger.
8. Cantharides (perhaps).
9. Terebinthinous preparations.
10. Phosphorus.
11. Cold bath.
12. Exercise.
13. Change of air.
14. Generous diet.
15. Bark.
16. The ferruginous articles.
17. Fetid gums.
18. Castor.
19. Musk.
20. Venesection.
21. Aloes.
22. Blisters.

There! you have Dr. Chapman's list; look at it, study it, and when you have done so, ask yourself the question—Is there an emmenagogue? No. Look at Murray's list, in his *System of Mat. Med. and Pharm.*, at p. 284, vol. i. Read over Cullen's list, with Professor Barton's additions; indeed, without reading anybody's list, reflect upon the causes of menstruation, and see whether any animal, mineral, or vegetable thing is likely, in a direct way, to make a woman menstruate. Cullen, after a long experience and practice, with careful attention to

collect results of this therapy, comes to the melancholy conclusion that they are the most unfaithful of medicines, not answering to the hopes awakened by their reputation.

I have long since arrived at the same conclusion; and you will, I suppose, remember how often I have expressed this disbelief in their powers while lecturing upon the emmenagogues at the College.

What then! Is there nothing to be done for a retention of the menses? Are we to say to the sick, There is no medicine for your case? Far from it; the sick require to be cured, and they may as often be cured of an amenorrhœa as of a rheumatism or colic; but *emmenagogues* will not cure them. Dr. Cullen, as I have said, placed no confidence in them.

Upon a review of Dr. Chapman's list and remarks, you will readily perceive that he has little confidence in them, as little, perhaps, as Cullen himself; and yet you find that what with the lancet, the baths, the aloes, the blisters, the martial preparations, &c., he arrays a really powerful armament for the combat against the causes of obstruction.

The very array shows that Dr. Chapman seeks, rather, to cure the disorder which prevents the menstruation in order that menstruation may occur naturally, as it will do in a healthy woman, than to compel the woman to menstruate first, in order that thereby she may be cured.

Perhaps you would like to call a foot-bath, or a suffumigation, by the name emmenagogue! A woman of a very susceptible and delicate constitution, who should, while *unwell*, get her shoes and stockings wet in a sudden shower, is liable to have her courses stopped, with pain in the pelvis, headache, and general soreness; and even some degree of fever. If she afterward sit with her feet in a mustard or salt bath, for fifteen minutes—or, if she sit over the vapor of hot water for half an hour—it is very likely the flow may return; or, if she will place herself in a sitz-bath, or go into a plunge bath at 100°, for twenty or thirty minutes, it is probable that her menses will return; or, if she will take a large warm emollient injection, perhaps the flow will recommence; but if it does, will the effect entitle you to say that these remedies are emmenagogues? I think not; for they do not compel, they do not lead, they do not draw forth. Such remedies serve, by removing causes of obstruction, or delay, to allow of the effectuation of the function. To break down a door is a very different thing from unlocking it, and setting it wide open. These medicines, perhaps, may serve in this sense to set open the door; they do not break open, and thrust through, which is the idea and modus of a true emmenagogue.

In the month of April, 1848, Z. E., in Ninth St., aged seventeen,

was confined to her bed with severe headache. The pulse was very *soft*, large, and slow. She was *unwell* on Monday and Tuesday, when the flow ceased; after which the headache and sluggishness presented themselves. This young girl laid in bed all day of the Wednesday and the Thursday. She took magnesia, which operated on the bowels. On Friday morning the flow came on regularly, and when I called to see her I found her down stairs quite well again. In this case, I did not expect the flow to return; for, as every vestige of it was gone, and as she had no hypogastric or pelvic *pain*, I concluded she would not menstruate until the next ovulation, and I informed her mother that I could not expect to re-establish the discharge. If she had complained of hypogastric or sacral pains, I should have had reason to suppose the mensual engorgement of the reproductive tissues to be as yet unrelieved, and so, likely to relieve itself by re-establishing the flow. As the case was, I felt some surprise to hear of the return after so complete a suppression, and I am confident that such a return is in general not to be looked for. Now to have given this girl any dose of any one of the emmenagogues would, perhaps, have swelled by one integer the statistical sum of menagogal successes, which, like much other therapeutical experience, would have been false and deceptive.

There are a great many cases of difficult or suspended menstruation that depend upon a rheumatic state of the womb. This pathological state of the organ preoccupies it, and brings it into a condition of sensivity and irritability incompatible with the performance of the mensual act. I am well persuaded that much of the dysmenorrhœa we encounter is rheumatic disorder. It is characterized by all the pains and fulness, and heat and pressure within the pelvis, of which we hear women complain, while they appear, in other regards, to enjoy very good health. The uterus becomes sensible upon pressure with the index finger; a pessary in contact with it produces a sense of hot or burning pain, and yet the Touch reveals no change in the form, dimensions, or resistance of the vaginal cervix. I presume it is, in many examples, identical with what has been called irritable or neuralgic uterus. It may last very long without change, and without inducing any cognizable change in the part.

These are the cases that sometimes yield to the anti-rheumatic treatment. Is it not fair to presume that Dr. Dewees's vol. tinct. of guaiacum, when it has done good in the dysmenorrhœas and suspended menstruations, has effected that good by virtue of its anti-rheumatic properties? I do not apprehend why the guaiac should possess any power to bring on menstruation, save that it has it in virtue of its anti-rheumatic therapeutical force.

I advise you to study with care, in all your clinical cases that may be probably attributed to rheumatism of the reproductive organs, particularly the womb, the phenomena that may present themselves. You should carefully note, not only the signs given out by pain, and by suspended or altered function, but the influence of remedies; for you may rest well assured that a great many cases of rheumatism of the womb have long been, and still are, commonly mistaken for prolapsions and other affections; a false diagnosis that leads to a false and unsuccessful mode of cure. Rheumatism of the womb is becoming a more frequent object of inquiry than it used to be, and I am sure the subject is worthy of your special study and exploration. Even the gravid uterus is the frequent subject of rheumatic attacks, and it will be my duty to speak of it under the proper head.

Meanwhile, if you find a patient complaining of pelvic pains, heat, weight, tenesmus, dysmenorrhœa, you would not be apt to make a mistake as to the true nature of the malady, should you after due examination, come to the conclusion that you have a rheumatism to treat. Suppose you have made an examination, by the touch and by external palpation, or the metroscope; that you find the womb not displaced, nor at all disordered, nor swollen, and, in addition to all this, learn that the patient has been subject to rheumatic pains; that she has accustomed herself to the use of the cold bath; that she is careless as to wet or damp cold feet, and that she wears no drawers; I see not what inference you could draw, save that she is rheumatic as to the uterus.

If you cure the rheumatism the patient is cured; all the signs of a uterine disorder vanishing with the disappearance of the pain. But a local rheumatism may often be cured by a bath; or you may obtain great relief by the wearing of flannels. A woman with a rheumatic uterus should, in cold weather assuredly, be directed to wear drawers of flannel, with a view to keep the pelvis and loins and thighs well covered and protected against the pernicious influences of cold and damp. Such a patient should have a soluble state of the bowels, which may be obtained by any gentle aperient, and by none preferable to precipitated sulphur. If she have complained long and much, previously to your first interview; if she be of a costive habit, and leave you to infer that some considerable accumulation of feces has taken place in the colon, she should be purged; and well purged, as a preliminary treatment. There is scarcely to be found a safer or more useful compound for this purpose than the mixture of jalap and cream of tartar with oil of anise. Twenty or twenty-five grains of jalap, forty grains of cream of tartar, and five drops of oil of anise, made

into a powder, should be given for a dose, at an early morning hour. It may be expected that the dose shall operate five or six times. Two days later the dose may be repeated, and again in two days, which will probably suffice. This more active operation of the purgative will be indicated for the severer, while the sulphur may well serve for the slighter cases. After this, let the patient take, at bedtime, an anodyne enema of forty-five drops of laudanum, with the view to abate the neuralgic sensibility of the parts within the pelvis. Let her have a bath at 98° three times a week, before going to bed; let her keep herself warm as to her clothing; let her take sulphate of quinia, or quinia and iron, or Quévenne's iron, and the disease can hardly resist the treatment. In fine weather it will be proper for her to exercise in the open air. The diet should be plain, but nutritious, and the treatment directed to build up the strength of the whole constitution.

There are such things in pathology as sanguine determinations, as they are called. A sanguine determination to the head may exist, giving occasion to cephalalgia; to flushings of the face; to buzzing, or droning in the ears; to hemicrania; to sopor; to apoplexy, or to coma.

There are likewise such things as losses of determination of blood to a part. All those people who complain of cold feet and hands suffer from loss of determination to these points; and they suffer so for months and for years. Now, there is a great difference between the cases of excessive determinations to a part and loss of determinations to a part. The former tends to procure excessive development; and the latter leads to debility, and even atrophy of the part. Well, a female may have an excessive sanguine determination to the pelvic extremity of the trunk, or she may suffer loss of such determination; if the former exist, she will be liable to excessive menstruations; if the latter, to amenorrhœa. Suppose a woman to have an amenorrhœa from the latter cause; then you will increase the pelvic determination by hot pediluvia; by the hip-bath; by the use of frictions to the lower extremities; by tight garters, or bandages on the legs; by warm flannel drawers and stockings; by exercise on foot, which develops the lower circulation; by galloping on horseback, which powerfully develops it; by the dance; and, lastly, by any medicines that tend to excite and stimulate the life-forces of the pelvic extremity of the trunk of the body.

If a woman should have a violent strangury, or a violent tenesmus, brought on by your physic, she will, *ipso facto*, have an augmented sanguine determination to the pelvis, its veins and arteries and capillaries, all of which are dependent upon the hyperneuric condition developed by the operation of your methods. But there are medicines that give rise to these phenomena. The resins; the balsams; spts.

turpentine; cantharides; aloes; such are the articles you would select. The tinctura sacra, spirits of turpentine, aloes, and assafetida; Lady Webster's pills, oil of Juniper berries; Dewees's tinct. of guaiacum, and tinct. of black hellebore; all these articles tend to fulfil the indication, which is to augment the pelvic determination. If they do fulfil the indication, then, the forces of life and development in the ovary being remodified and reinstalled, the germ production will recommence, the ovulation and ovi-posit will be re-established with monthly exactness, and the patient will have become regular again.

A woman may miss of her monthly courses from debility; what debility! She may have been weakened by excessive menstruations. She may have lost twenty ounces a month, for many months, so that she has at last become really hydræmical. Or she may have had a constant drain of blood from some hemorrhoidal marisca, or other excrescence; or she may have been reduced by malarious fever, which has engendered an *ague cake* in her left hypochondrium. Her blood is reduced in its crasis by any of these, or by whatever cause. To cure such a case, bark and iron and wine and meats, and air and exercise, are the indications to be fulfilled by your authoritative prescription.

I refer you again to the so often proposed dogma, or rather *truth*, that neurosity is the result of the contact of oxygenated blood with the substance of brain. None of the innervations of your patient will be perfect and powerful unless there be a just proportion between the dose of oxygen in the blood and the Biotic power to be evolved. Your thin, pale, oligæmic patient cannot take up enough oxygen out of the air she breathes to make her *strong*. Let your business be, nay, let it be your sole business, to thicken, to enrich, to ensanguine her blood, in order that that rich and perfect compound may be enabled to absorb and take out of the circumambient air the just and requisite amount of oxygen wherewith to deflagrate, if I may so speak, in the brain, and evolve from its molecules the neurosity, the life-force, the Lebens-kraft, as the Germans call it. Meat and wine, and air and exercise, bark and iron, the sea-bath, and mountain air, a cheerful spirit, an attention to the dress, soluble bowels, frictions of the skin—why need I enumerate all the things that might concur in the great end of improving the general health, which, being renewed, the menstruation follows as light follows the uprising of the morning sun?

Georges Cuvier says: "La respiration est la fonction essentielle à la constitution du corps animal. C'est elle, en quelque sorte, qui l'animalise, et nous verrons aussi que les animaux exercent d'autant plus complètement leurs fonctions animales qu'ils jouissent d'une respiration plus complète."

Examine your patient carefully, to learn whether the uterus may haply have become the seat of a chronic inflammatory engorgement that tends to produce an hypertrophic state of the organ which might render it disobedient to the normal influences that lead to the sensible signs of menstruation. In that case, should the state of the general health not forbid it, you would do wisely and well for the patient should you take from the arm several ounces of blood, say from eight to sixteen ounces, by one abstraction, in order to check the excessive vascular momentum directed upon the organ. I pray you be not afraid of the lancet; for very few persons are hurt by the use of that fine therapeutical agent, whereas, hundreds and thousands are permitted to lapse in health, and fall into a premature decay and death, from the want of its curative power. I implore you to study carefully the nature of the therapeutical effects of bloodletting; endeavor to estimate its power over the Biotic forces; try to comprehend how and why it is that the abstraction of blood modifies the general innervative forces, and, so, modifies the life-force in a dieased part; and you may safely be trusted in the world with the lancet in your hand, which you will never, or rarely, apply to the hurt, or even the smallest injury of your patient. If, on the other hand, you fear to bleed, you will permit many to perish, or fall into chronic ailments, worse than death, because you are timid, or ignorant as to the use of a remedy, which in all ages of the world has been, and in all future ages is likely to be one of the prime resources of our art against a host of maladies that are indeed not to be successfully controlled by other means. I have heard that illustrious man, our revered countryman, Dr. Physick, say: "It may be that, in some few instances, I have had occasion to think I have carried the use of the lancet too far; but I have to lament very numerous instances in which my timidity has prevented me from using it with sufficient boldness to save my patient from death." Such a saying, of such a man as Dr. Physick, is worthy of your hearing, and your heeding; for he was, take him all in all, a man of matchless wisdom and skill as a physician.

In the further treatment of these cases of engorged uterus, with a tendency to hypertrophy, I advise you to make occasional applications of leeches to the collum uteri. They are very readily applied by means of a Récamier speculum, to which is adapted a cylindrical cup, that fits into the larger end of the tube. This cup, being filled with the required number of leeches, should be inverted into the speculum tube, after that has been so adjusted as to receive into its uterine extremity the whole vaginal cervix or collum uteri. Instead of using such a cup, it is easy to push the leeches to the bottom of the tube by means of a sponge held

in the speculum forceps. The leeches generally fill within thirty-five minutes, and often in twenty-five minutes, when they may be withdrawn together with the tube.

In applying leeches to the uterus in this way, you should not use more than a dozen at a time, and I confess I have seen very dangerous bleeding produced by only one dozen American leeches. Of Swedish leeches do not use more than four at a time. I have seen the hemorrhage go to the extent of causing most alarming deliquium, restrainable only by the tampon. Such accidents are, however, very rare, and only accountable for, by supposing that some considerable branch of the rete vasculosum of the vagina had been opened by the leeches. No danger need ever be apprehended from such an accident, provided you are at hand to obviate it, and that you can always do, as above said, by the use of a tampon.

By means, then, of general bleeding, and the topical extraction of blood by leeches, you will probably in most cases succeed in reducing the vascular engorgement of the womb, and overcoming the sanguine determination on which it may have depended. The use of escharotics for the cure of these disorders, has been so fully set forth in my *Treatise on the Acute and Chronic Diseases of the Cervix Uteri*, with plates; Philad. 1854, that I have to refer you to that work for my views on the subject. Yet it is sometimes proper to secure the good end by rest in a recumbent posture, and by the employment of purgative doses, particularly the hydragogue dose of jalap and cream of tartar, repeated on alternate days, for several days. These purgative doses, with the anodyne enemata at night, will restore the balance of the circulation, taking away the pain, heat, and pressure; after which, a regulated diet, and proper exercise and clothing, with the adjuvant power of bitters, or ferruginous tonics, will bring the patient up from the lowness brought on by the disease, and by the treatment, after which she may be expected to menstruate again. I shall here close this letter, with the assurance of the respect and esteem with which I am your faithful servant,

C. D. M.

LETTER XXXIV.

MENORRHAGIA.

Gentlemen: The word Menorrhagia means immoderate flow of the menses; which flow consists of a purer blood than that of the regular catamenial evacuation. The blood is purer, inasmuch as the impetuous haste of the discharge causes it to come off less mixed with cervical and vaginal mucus and epithelium than in the more moderate or normal mensual hemorrhage; and this, I believe, is the only difference between them. As the blood, in menorrhagia, is less mixed and combined with foreign matters, you would naturally expect to find it to coagulate more readily; while this is quite true, it is not the less true that the real normal menstruous excretion does, in many women, coagulate without any suspicion of menorrhagia; and it is reasonable, *à priori*, to suppose so, since one woman may be seven days getting rid of her six ounces of fluid, whereas another woman will part with ten or twelve ounces in three or five days. She who discharges the menses *pleno rivô*, will be sure to find some coagula; she who passes it slowly away, will find it to sink into her napkins without a clot—for the blood has time to become much combined with mucus and epithelium.

I should think you would not be surprised to learn that a woman may be now and then menorrhagic, because you would reflect upon the highly hemorrhagic nature of the womb—a very small organ supplied by two very large uterine arteries, and over and above that source, deriving into its sanguine circulation no small quantity from the inosculations of the ovarian arteries. Under such circumstances, and with the propensity to effuse blood, established by the regular monthly habit of bleeding, women should be esteemed always liable to excessive menstruation; though the vast majority of them do escape any such inconvenience.

Even in the case of epistaxis, one may readily acquire a sort of habit of bleeding at the nose; and the discharge in that case differs not at all from that of the menstrua, except in respect to the nature of the epithelial desquamation, and, probably, also, some modified state of the admixed mucus. A patient shall bleed at the nose to the extent of losing only an ounce of blood on one occasion, whereas on some subse-

quent one, he may lose a wash-basin full in a continuous rill; just so is it with the menstruating woman. When she bleeds just enough, just her accustomed quantity, it is all right with her; when she flows in excess, she is menorrhagic, she has menorrhagia. The word is derived from the Greek μην, month, and ρηγνυμι, to break out. It is a true case of true uterine hemorrhage; though we are accustomed to call it menorrhagia, in order to indicate the opinion that it is connected with the mensual hemorrhage, and is not an accidental one. Hence, I advise you, when speaking of hemorrhages connected with the causes of menstruation, to call them menorrhagias, a word that expresses a whole phrase. It is a word that may be thus paraphrased. The woman is bleeding excessively because the ovi-posit, in her case, has induced an excessive *nisus hemorrhagicus*, instead of the usual moderate and natural one. But when a woman bleeds because she has a phagedenic ulcer of the womb, or a detached ovum, or a polypus, or a bunch of hydatids, or a wound, then it is uterine hemorrhage. In this way you will speak with precision; and if all our brethren would be equally precise, there would be a better understanding of the meaning and value of the words menorrhagia and uterine hemorrhage. Take notice, however, that a person with an ulcer that should not bleed during the intermenstrual period, might readily have an attack of hemorrhage from the sore in consequence of the mensual hyperæmia; and then it would be, in one sense, a menorrhagia.

Now the question comes up as to what can be the cause of the case of menorrhagia that demands your care, and it is a question difficult, in many individual cases, to answer. I say it is difficult to answer the question for a good many cases; in others it is not difficult.

There are some women who have a very powerful systemic ventricle, giving a large, full, hard pulse, like the synochus fortis pulse. In such people, the blood, driven forward with a great momentum by every stroke of the ventricle, reaches the distal parts of the circulation with such an impetuous movement, that we need feel no surprise to find the hemorrhagic surfaces, once begun to bleed, continuing for a long time, and abundantly, to discharge the sanguine fluid.

Such hemorrhages are common incidents for those persons who have hypertrophy of the left ventricle. In men, these hemorrhages go to the lungs—the nose, the stomach, the hemorrhoidal vessels, or the brain; and are called hemoptoë, epistaxis, hematemesis, apoplexy, &c. In women, the same dangerous tendencies exist, but the habit in the uterine and spermatic arteries of yielding to the force of the sanguine injection causes them to be more frequently attacked with menorrhagia. In such a state of the arterial pulse, a menorrhagic attack is readily

explainable by reference to the enormous force of the heart. Take notice, again, that those patients who in the later years of their menstrual life present the above-named characteristics are very likely to be the victims of paralysis, hydrothorax, or other disease of the circulation, whenever they shall have fairly passed through the change of life.

It has been asserted that within two hundred years past whales have been captured of the length of three hundred feet, though it is at the present day rare to meet with a whale of seventy or eighty feet in length. The animal is so much sought for in the whale fisheries, that the large and aged ones have been in a good measure destroyed, the captures amounting probably to ten thousand a year. But a whale of three hundred feet in length had an aorta of twelve inches in diameter, the blood of which was impelled with the rapidity of a mill torrent by an enormous systemic ventricle. The power of that ventricle no dynamometer could estimate; it must be *enormous*. It would drive an ordinary grist mill. My design in mentioning it is merely to suggest by it to your mind a reflection on the comparative power of the systemic ventricle in all animals. That power, in all the species, should be conformable to the resistance-power of the tissues that receive the sanguine injection. Now, you can perceive, that in our case of menorrhagia, the injecting force may far transcend the resisting power of the tissues, and the consequences might be, a menorrhagia lasting until the abnormal energy of the injection-power comes back again to a conformable degree or rate.

But there are some weak and very susceptible people, on the other hand, whose hearts are soft and gentle in motion, who nevertheless suffer from menorrhagia. For such people you cannot bring the excessive development of the heart to the solution of the problem. It is better, and more consonant to reason, to suppose that such patients suffer these excessive losses in consequence of an adynamic state of the womb itself, a state which enables a moderate force of arterial and capillary injection to overcome the barriers to hemorrhage that ought to be set up in the distal extremities of the vessels—vessels that ought to be strong enough to resist the hemorrhagic force, but are not. Hence you must come to the conclusion that a menorrhagia may depend upon either an excessive power of the sources of the circulation, or upon an adynamic state of the organs towards which that circulation is directed.

This last supposed case may be dependent upon some faulty action of the entire nerve system of the reproductive organs—a faulty state brought about by frequent pregnancies and abortions or labor—by in-

dulgences in unlawful contacts—by excessive libidinous sensations—and lastly, in the wretched class of public women, by the habits which ruin and degrade them both physicially and morally.

Again, you may encounter cases of menorrhagia dependent on malignant disease, on typhus, on smallpox, on scarlatina, on cancerous vice—for all these maladies vitiate the blood, and produce a state of the solids so utterly atonic, and of the blood so completely aplastic, that it flows away passively; and it soaks, so to speak, through living tissues that are already half dead.

A woman may have a menorrhagia because she has a polypus growing within the womb; I say a menorrhagia, for the polypus may be a firm fibrous tumor, very sparingly supplied with circulation in its own substance, and without any abrasion of its superficies that might cause *it* to bleed; and in this very case the womb shall be so vexed and so irritated by its presence and pressure, as to be the subject of a monthly hemorrhagic nisus of the greatest intenseness, arising from the presence, the pressure, and the irritation excited by the tumor, and not from the tumor itself, so that the flooding is flooding of the womb, and not bleeding from the polypus. You should note this distinction, for you may meet with many polypes that bleed themselves, though they do not make the womb bleed.

A sample of this sort was the case I mentioned at page 249 of my XIXth Letter, and I have seen many such.

I fear, my young friends, that, like some older persons, you will not be so careful as you ought to be in making the diagnosis of our case. I will not say that it is always possible to make that diagnosis with absolute assurance; but I presume that where a perfect periodicity of the bleeding, I mean a catamenial periodicity, is observable, you will be pretty correct in resolving that it is a menorrhagic and not a hemorrhagic flooding. Indeed, it will, with such periodicity, be truly menorrhagic, even if the causa ipsissima be a polypus, a carcinoma, a gestation, &c. &c. If the case be not characterized by this periodicity, it will not be menorrhagic, but will, far more likely, on the face of it, wear the imprint of polypus, of ulcer, of chronic inflammation of the inner wall of the womb, of vegetations, &c. &c. &c. The consistence, hue, and abundance of the discharge furnish no means of discrimination.

In order to explain myself more fully, let me say that a hemorrhagic nisus once set on foot does not, in some cases, exhaust itself for days, for weeks, or even for months, and yet it might be a case of simple menorrhagia. For example, I was, some time last winter, invited to give counsel to a lady, unmarried, aged about twenty-eight, very fat and

even ruddy in complexion, and strong. She had not been one day without copious bloody flowing, for full six weeks, or forty-two days. I found her pulse not preternaturally full, but the rather, I found it to be quite conformable to the state of her general constitution. Still, she kept on bleeding, as I said, for forty-two days, without a moment of intermission. My impression was that the texture of the womb had, from some unknown cause, become relaxed so as to produce a hyperæmic state of the organ, which all the discharge was as yet unable to reduce. I asked myself this question—What does the lady require for her cure—not what drug, but what change in any of her organs? Does the heart want any change? No; it beats well and temperately as I could desire. Is there any extraordinary excitability or sur-excitation of the nervous system in general? I can discover none. All the secretions are healthy; and this issue of blood, which is completely blood, is the only fault. What is most likely to cure it? Anything that may condense the tissue of the womb; that may serve to make the womb smaller, harder, more solid, stronger—for the womb is composed of uterine tissue, with its vessels, nerves, absorbents, and cellular tela. What can I do to bring about this state of advantageous condensation of the womb? I can order cold baths, astringents, rest in a recumbent position, cool air, cold acidulated drinks, cold enemata—but, of all remedies, the most clearly indicated one is the secale cornutum—because, if that should have any effect whatever upon the womb, it would be the effect of condensing the uterine solids. I gave some vinum secale cornuti. She took a teaspoonful, which was repeated three times a day, and in two days her menorrhagia was gone and returned no more—*vel post hoc, vel propter hoc.* At about the same time, I visited a maiden lady, forty years of age, who had long led a very sedentary life. She complained of a constant discharge of her courses, as she said; and had not been free from a sanguine effusion for more than three months—nearly one hundred days. As the effusion was the sole symptom, save the accompanying debility, I felt that I had a right to regard it as a case in which, if the womb could be made to acquire an additional and normal degree of tonicity, the complaint would cease. I said, if secale cornutum has the same power to excite the muscular innervation of the non-gravid as of the gravid womb, it will probably fulfil the indication; for if the womb, in its substance, shall become condensed, all its parts will receive of the benefits of that condensation. I gave her vin. secal.cornut., a teaspoonful three times a day; and she told me after three days that her trouble disappeared, since which she has enjoyed her usual health. Now, for my own part, I do not at all doubt the wine cured her, for here are two clearly marked cases of the therapeutic effect of the drug

speedily manifested; and, for a great many years past, I have occasionally found patients complaining in the same way, who have been in like manner cured. Pray, take notice of what I suppose to be the rationale of this cure, for it is for the sake of the rationale that I relate the cases. I wish you to understand, not so much that I cured these people, as the principles upon which I relied for their cure. I wish you to understand that a woman may have a menorrhagia because she has a flaccid, feeble, engorged, adynamic womb, just as an accouchée may have a post-partum hemorrhage because her womb will not condense itself. In the accouchée, you will compel it to condense itself by various means, among which not the least nor last will be the secale.

Sometimes the secale fails to evince the slightest power over the non-gravid womb, even over the post-partum flaccid womb; and in such cases, being disappointed of the condensing force of the secale, you must seek for other means of cure, requiring longer processes, such as styptics, tonics, cold, and wine.

Very young girls are, some of them, subject to menorrhagia. I have seen a girl under eighteen using sixty napkins at every menstruation. This young lady died about a year afterwards, with some physical alteration of the uterus, or ovary, I know not which, since she lost her life in a distant city.

You will be very undutiful as physicians, in these disorders, if you do not attend to the greatest of all points of duty in them; I mean the establishing a sound and true diagnosis. Remember the heart of the Balæna mysticetus, and its aorta a foot in diameter. If your patient's pulse and heart's throb put you in mind of the Balæna, you would bleed her, I should think; you would lay her in bed; you would exclude all stimulants, all conversation, lights, rich food, &c; you would weaken her heart's injecting force by the lancet; and you would give her tartar emetic in small doses; and digitalis, and cold acidulous and styptic, or hæmastatic drinks. Or, on the other hand, you would find her circulating power to be normal, and in that case you would not proceed as above, but you would apply styptics, cold, rest, opium, secale, &c. &c.

As a general rule, I suppose that were a young person to send for you on account of a profuse menorrhagia, you would tell the nurse to put her to bed, cover her lightly with bedclothes, give her cold drinks, feed her sparingly, apply to the hypogaster some cloths wrung out of vinegar and water, and tell her there is nothing to be feared. Such a counsel would, in most cases, comprise nearly all you ought to do, or direct; but now and then you must go further than this.

A very extraordinary case was under my care last winter, which I

shall relate to you; and I hope you will not find fault with my conduct of it.

A very delicate young lady, brought up in the lap of luxury and indulgence, and having at command all the benefits of fortune, possessed, of course, that nervous sur-excitability that often accompanies the higher advantages of the social state. Her age was eighteen or nineteen—an only daughter—her weight about eighty-eight or ninety pounds. She had a two months' amenorrhœa, which was followed by a rather profuse menstruation, succeeded by a three months' retention; during which she had no occasion to complain of ill-health, beyond the mere fact of the amenorrhœa. At the end of the said three months, she had in the morning a very slight show, which she was glad to discover; and, upon consultation with the mother, went out to take a walk, hoping in that way to secure a good elimination, by setting her blood in more rapid motion. She did not go very far, and upon returning to the house was considerably more *unwell.* Early in the afternoon, her mother sent me an urgent message. I learned that the discharge was excessive, with coagulations; but deeming it not at all alarming, I ordered her to be kept very quiet, in a low, recumbent position in bed. I gave her some powders made as follows: Take a drachm of alum and a scruple of nutmeg; make a powder, to be divided into twelve parcels, of which one parcel is to be taken every hour, or every two hours, according as the flow is greater or less. She was allowed cold lemonade.

At ten o'clock at night, I was recalled, and found a great alarm; a night-vase was filled with napkins deeply stained, and with many clots. The pulse was weakened, the face pale, but the patient not at all disconcerted. There seemed to be no hemorrhagic nisus discernible in the action of the pulse. There was no pain.

The parents were deeply concerned, and asked me many questions as to the danger, and the means to obviate it. I told the mother that the arrest was in my power at any moment. "Well, sir, why not use at once the means that may put a stop to so frightful a discharge?"

In reply, I stated that I did not deem it necessary now to act; for there was reason to expect that the hemorrhagic propensity would soon be exhausted—that there were many therapeutical remedies of considerable force, and that I preferred not to resort to a chirurgical measure until compelled by the stress of circumstances; for I should deeply regret to subject so young a lady unnecessarily to the *Touch;* without which the remedy in question was not to be applied.

You will think it strange that I passed the *whole night*, until daybreak, in that apartment, allowing the child to faint again and again; opening the windows; using the fan; applying iced vinegar cloths to

the hypogastrium and thighs, administering opium, sulphuric acid, and rose-infusion; taking the pillows occasionally from under her head, and vainly endeavoring to reassure the mother, who repeatedly entreated me to use the tampon; but I would not. Towards morning, a remission occurred, and I went to my home. She was calm until after breakfast; when, upon my return to her chamber, she began again to flood and to faint, so that I was compelled to say to the mother that the time was now come to put a definitive stop to the hemorrhage, whose longer continuance would compromise the young lady. This determination she joyfully received.

When she had provided me with a bundle of old linen, and cut it into squares of four inches each, and many of them, I pushed them one by one to the bottom of the vagina, out of which I first turned a handful of coagula. As soon as I had filled the vagina with the squares, I applied a napkin, folded up thick, in shape a parallelogram, that was carefully adjusted to the genitalia; and having secured the compress by the usual bandage very firmly drawn, the hemorrhage ceased. In twelve hours I withdrew the tampon; no flooding came on. In a few days the discharge ceased completely. I gave her broths and meats, and wine and iron, and she has been ever since in excellent health.

There, gentlemen, is the unexaggerated history of my conduct of a case of menorrhagia in a young lady. I am ready now to say, that if I had such a case at this moment, I should treat it in the same way, as far as to the chirurgical part of the treatment. I do not regret that I allowed her to bleed so much and so long. I would permit another young lady to do the same thing, because, having confidence in the power of the tampon to suppress *such* a flooding, I would let her go very far towards a dangerous state rather than subject her to the mortification of the surgical intervention.

As to the *mortification* which overtook her at last, you ought to reflect that *it* was sunk in the *hazard*. There was not, and there cannot be, any mortification for the mind when the consciousness of extreme distress or peril becomes the paramount sentiment. I have no doubt that the very perilous condition into which I allowed her to fall had the effect of removing wholly the shock, and the vexation, and the shame, that would have wounded her had I, like a remorseless barbarian, subjected her unnecessarily to the *Touch*.

I hope you will read this case with care. I say with care; and I mean to urge you, on the one hand, not to be too hasty with your chirurgery, and, on the other hand, not to let your patient sink so low as to make it out of the question to restore her. You ought in the beginning of your career to be ever thoughtful, ever circumspect, never in

a hurry to decide—always allowing yourself time to study the state of the case in all its bearings both present and prospective. A young man is as capable of doing this as an old one; the only difference is that the old man has learned to look about him; whereas, the young man will not, in his hot and hasty temper, take time to think, but snaps at his conclusions like a duck at a June-bug, as we used to say when I was a boy—excuse the homeliness of my simile; many of you have known it to be a common parlance, especially in the South; at least it was so forty years ago, when I lived there.

Styptics, in uterine hemorrhage, are not of very great power. The mineral acids are about as good as any of them; ten to fifteen drops of elixir of vitriol, diluted with a wineglassful of infusion of roses, makes a very good dose that may be repeated every hour or two. Five or twenty grains of powdered alum, with two grains of nutmeg, made into a powder and mixed in syrup, or in a dessertspoonful of honey of roses, is a good dose, to be repeated hourly. I think, upon the whole, this is one of the best of the styptics. It is a very safe one. If you should make use of it in some bad case, and should find the flowing to continue notwithstanding your administration, take my word for it that you ought to make the patient swallow a large teaspoonful of the alum for a dose, and repeat it several times. It readily excites vomiting; indeed, there is hardly to be found a more prompt emetic: but, an emetic is a good therapeutic against a hemorrhage or menorrhagia; because the state of nausea, and the emulging influence of the act of vomiting are capable of changing the determination of the blood, whilst it powerfully modifies the rate, not only of the heart's action, but also the rate and distribution of the innervative or Biotic force.

Take, therefore, into your practice, the assurance that alum is one of your best medicines. See a paper on Croup, by my son, Dr. J. F. Meigs, in the *American Journal* for 1847, for an account of the uses of alum as a remedy; and also the article on Croup in my *Observations on Certain Diseases of Children.*

Again, you have in opium a powerful modifier of the circulation. Opium always modifies the pulse; it checks the hemorrhagic nisus of the womb very effectually; think, therefore, of the resources you have in your hands through this drug.

Sugar of lead is thought to be a very powerful article in the treatment of these hemorrhages. I do not like it, nor do I believe much in it; perhaps I have not dared to give it in excessive quantities; and having very rarely exhibited more than three grains in combination with opium for the dose, I am not sensible that I have ever been much

struck with its hæmostatic power, though I have made use of it many times, yet less frequently of late than in former years.

The secale cornutum is a good and safe remedy; I know of no objection to its use in menorrhagia; I ought, however, to say that if you make a false diagnostic, and give the patient secale when she is pregnant, while you deem her only menorrhagic, you will kill her child by making her miscarry. This you ought not to do, for it is discreditable to you and to your art to make such a mistake. But having on a former page presented you my views on the use of secale, I shall not here iterate them.

When a patient has recovered of the actual menorrhagia, you should give judicious orders as to her exercise, dress, food, and medicines, and take care, on the one hand, that the cardiac forces of the circulation become not again predominant in their power, and on the other, that the density or tone of the tissues of the body may be restored to a normal condition by those hygienic and therapeutic remedies and conduct that are suitable in the case. In all anemias, pure anemias, iron is the best of the therapeutic remedies—the wine, meats, baths, &c. are of the greatest importance in the way of the adjuvant ordinances. Farewell. C. D. M.

LETTER XXXV.

ON DYSMENORRHŒA.

Gentlemen: The Greek words δυς μην ρεω mean—first, difficult; second, month; and third, I flow; so that out of δυςμηνρεω it was easy to make the word dysmenorrhœa, which might be translated absolutely, a difficult monthly flow.

Dysmenorrhœa is a more or less painful disease; sometimes not very much so, but not unfrequently so much as to give a color of distress and affliction to the whole life of the patient. A lady said to me, some time ago: "Doctor, I have for fifteen years suffered invariably at my periods such intense distress, that I can scarce think of anything else than that on a given day my pain is to be repeated; language is incapable of expressing the degree of torture which I suffer under the pain, the approach of which fills me with horror."

A woman who suffers dysmenorrhœa is, *ipso facto*, unhealthy, as to the womb, and very likely to be unfruitful in the marriage-bed. It is

true, that dysmenorrhœa may last for many years, in certain persons, without bringing about any visible change in the health of the constitution, which remains vigorous, and retains the normal powers of development, notwithstanding the invariable return of the pain at the mensual term.

You are not, however, from this statement, to take up the notion that dysmenorrhœa is an indifferent matter, viewed in the aspect of its influence on the health and security of the patient.

The pain, the irritation, the imperfect performance of the function, and the state of the tissues that leads to it, are, all of them, circumstances well calculated to excite the solicitude both of the patient and the physician, because it is certainly true, that the disturbance of the health of the reproductive tissues is very likely to exercise a disturbing influence upon the soundness and healthfulness of the entire rest of the constitution.

The pain of dysmenorrhœa is a pain felt in the hypogastric region, in either or both of the iliac regions, in the tractus of the ligamenta rotunda, in the sacral region, in the thighs, and very frequently in the course of the distribution of the obturator nerves. This pain, not unfrequently, extends to the whole belly, and is from its violence at times insupportable, compelling the patient to lie down in the bed, or on the couch; forcing from her both tears and groans, and producing so great a degree of restlessness that she seems to writhe like a crushed worm.

As a general rule, it may be stated that the pain disappears in six or eight hours, and that it is rarely intense during more than twelve hours, while the painful sensations, however, may continue one, or two, or three days, and in some women through the entire progress of the catamenial act. A person who is subject to dysmenorrhœa, for the most part, finds herself relieved in the course of the first day, or as soon as the flow of blood becomes fully and freely established, and regards herself not subject to considerable pain or inconvenience, until the cycle shall have brought back to her the hour of her affliction.

There are hundreds and thousands of women, to whom the menses never bring any the least trouble or inconvenience; there are vast numbers of females, also, who are notified of the approach of their terms by some sense of fulness and weight, or dragging, in the region of the pelvis; symptoms which disappear as soon as the nisus hemorrhagicus has effected the opening of the mouths of the vessels, and begun to relieve the hyperæmia of the reproductive tissues.

The woman's womb aches until nature bleeds her, as the pleuritic man's stitch torments him until his physician opens a vein in his arm.

If the menstrual flow succeeds in relieving the turgescence of the vessels of the womb, it will, *pari passû*, have relieved the nerves of the organ of their hyperæsthesia. The pain is pain in the nerve, and, I suppose might be fairly attributed to the sort of compression which the distal extremities of the reproductive nerves must suffer in any case where an organ so solid in its tissue, so firm and elastic as is the uterine texture, becomes the subject of a very decided hyperæmia.

I have already said that the uterus, or rather the reproductive apparatus of the female, is extremely liable to that form of disorder which is called rheumatism, a circumstance not to be wondered at, in view of the manners and customs, modes of dress, and habits of the females living in the various latitudes in which most of the people of Christendom reside. In those latitudes, women are rarely clothed as warmly as they ought to be: custom, *bienséance*, the power of fashion, cause them to clothe the pelvic region of the body and thighs too lightly, and the women who live in what are called the better classes of society, are constantly exposed to the morbific influences of cold and damp, applied to the lower extremities.

The menstrual alternations of the life-force in the reproductive organs, which allows them never to continue in one even tenor of action, probably exposes them more peculiarly than other organs to the morbific, repercussive influence of cold and damp, which are admitted to be the most considerable provocatives to rheumatic disorders.

Well, then, do you not perceive that a rheumatic womb is likely to be, during the menstrual act, a painful womb, and that much of the dysmenorrhœa which it will be your destiny to encounter in your future career as practitioners, may be justly regarded by you as a form of rheumatism? Dr. Dewees was fully convinced on this point.

I am desirous to impress this notion upon your minds, my young friends, because, if the notion be well founded, which I believe it to be, I am sure that it will teach you in your therapeutical prescriptions, and in your hygienical recommendations and ordinances, to take such precautions as may tend to free the patient from the essential element of her maladive condition, which is rheumatism.

But there are many causes besides rheumatic vice which may give rise to pains in menstruation; doubtless the womb may be like any of the other tissues, the seat of a pure neuralgia, by which word I mean a preternatural sensibility of the nerves of the tissues. Such a neuropathic condition would not fail to be aggravated at the inception of that vascular engorgement which, under every theory of the function, is admitted to be the antecedent or attendant of the monthly flow; and

it is quite reasonable to believe that the full establishment of the evacuation might be expected to relieve the woman from her neuropathic state. It may well happen, too, that the patient may suffer pains at the menstrual crisis, dependent upon the temporary aggravation of evils, derived from the presence of tubercles, fibroids, and of various heterologue formations, to which the womb is not unfrequently found to be subject.

A displaced or a deviated womb is truly a dislocated womb; but a dislocated organ cannot be supposed to have a healthful existence, since such dislocation cannot fail to produce distortion and traction of its nervous fibres, which render the organ liable to suffering under changes of its sanguine circulation and its innervation. I assure you that I meet with numerous examples of dysmenorrhœa, which, on investigation, prove to depend upon a retroversion of the womb. In this case, the organ generally becomes enlarged and very sensitive—there is no ground for surprise then, to observe that the woman has extraordinary pain while menstruating. To cure her, it is indispensable to place the uterus in its proper attitude, and maintain it there, which alone is often enough to effect the cure. A womb that is maintained at its proper height and in its proper attitude in the pelvis, will be, *cæteris paribus*, less likely to be the subject of dysmenorrhœa than a displaced or deviated one: a uterus that is retroverted will scarcely fail to be a dysmenorrhœal uterus. A uterus that is far prolapsed will rest with the os uteri upon the floor of the pelvis, and, resting there for a long time, the neck of the womb is likely to become bent at an angle approaching more or less to a right angle. But, if the cervix uteri is bent at a right angle, don't you perceive that the canal of the cervix uteri is, by that very fact, placed in the condition of a strictured canal? But, if you have a strictured canal of the cervix uteri, will not irritation in the body and fundus of the uterus supervene from the difficulty which must necessarily ensue in the evacuation? Don't you know that a stricture of the urethra produces irritation of the bladder, of the ureters, and even of the kidneys? and will you find it difficult to suppose that a stricture of the canal of the cervix uteri may, in the long run, lay the foundation for such irritation of the womb itself as shall result in the establishment of a true dysmenorrhœa?

I don't pretend to say that all the cases of stricture of the cervix uteri are to be attributed to anteflexion or retroflexion of the neck of the womb, although those flexions and angulations are among the frequent causes. It is very certain that some of the strictures of the cervix uteri are congenital; you will admit that this is the case, because you already know that congenital atretism of that canal is one of the

possible circumstances hereafter to attract your attention and call forth your skill: I have had several such samples of great contraction among the anatomical specimens in my collection, and I have seen similar ones in some of the museums of Europe. It was upon the observation of this constriction of the canal of the cervix uteri, constriction so great, as to make it not a little difficult to introduce a common pocket probe to the fundus uteri, that that most ingenious physician, Dr. Mackintosh, author of the *Practice of Physic*, founded his successful treatment of cases of dysmenorrhœa.

Dr. Mackintosh has given numerous cases of females, in which he observed that the orifice of the canal of the cervix was exceedingly small; so small, as scarcely to be perceptible to the touch: on pressing into that orifice a small bougie, which he carried up through the whole canal to the cavity of the body and fundus, he gently dilated the passage, which he fully dilated by succeeding operations, in which he employed larger, and still larger bougies, until the caliber of the passage was perfectly restored.

The effect of these operations was to cure his patients of the most distressing and long-continued dysmenorhœa, which serves conclusively, I think, to establish the theory that I am laying before you, namely, that stricture of the canal of the os uteri may be a cause of dysmenorrhœa.

Dr. Mackintosh's practice has been used everywhere, and with undoubted success in cases proper for it. Some of the brethren have preferred to Mackintosh's method the use of a concealed bistoury, which, being introduced to the upper extremity of the canal, is slightly disclosed by a spring, and then, being withdrawn entirely from the os uteri, has divided the lining membrane of the canal, allowing of a complete dilatation of it. When I was in London, in 1845, Dr. Locock showed me one of these instruments, with the effects of which he appeared to have been much pleased in his practice.

If you have read this book, you must have observed, in a former letter, that I strenuously opposed the use of all cutting instruments in the procuring of a requisite dilatation, upon the ground that every division must be followed by a cicatrix, which is, essentially, a morbid existence; whereas, all necessary dilatation can, I am convinced, be as readily and perfectly brought about by a distending pressure, leaving the part, when the part has been thus cured, without a wound, and in a perfectly healthful and normal state. I repeat it, that a cicatrix is not a normal state; it is always insecure, always dangerous. I, therefore, profess my adhesion to Mackintosh's practice. My own experience in the use of the bougie has been to a certain extent satisfactory to me;

satisfactory to this extent, that it has not only, in some cases, relieved the woman from distress, pain, and other disorders of menstruation, but that it has cured her of a pre-existing sterility. A woman is likely to be sterile when her uterus is unhealthy, and particularly, when it is unhealthy from narrowness of its canal.

Within two months, there came to me from a distant State, after a correspondence which I had with her physician relative to her case, a lady complaining of dysmenorrhœa. She had been for fifteen years perfectly regular; she never failed in her menses, but she could not remember a single instance of her catamenia in which she had not suffered the most direful distress. Her general health was excellent; she had a lively, brilliant complexion, a charming degree of embonpoint; but she had been many years married, and had had no children. After conversation with her, she was willing to submit to an examination by the Touch, and afterwards by inspection by the speculum. I found, upon the Touch, that the os tincæ rested upon the floor of the pelvis, where it had long rested; and I supposed that the weight of the uterus and the superincumbent pressure had produced an anteflexion of the cervix, bending it at about an angle of 110°. The opening of the os tincæ was very small. Exposing that orifice by catching the collum uteri in the uterine extremity of a Récamier speculum, I pressed into it a linen bougie, which I conducted as far as the cavity of the womb. On the following day, I repeated the operation, succeeding with a larger bougie, and the operations were repeated four times only, when I desisted from further attempts, because her catamenial hour was nigh at hand. On the fourth day after the last operation, her courses appeared in due time; they flowed freely, abundantly, and normally; and for the first time in her menstrual life, which, as I before said, had now continued for fifteen years, she passed through her menstrual crisis without the least uneasiness or distress, to her great satisfaction and that of her anxious husband. She soon afterwards returned to her own State, promising me to keep me informed of the progress of the cure, since which I have had tidings from her. She has never conceived.

I will not cram this volume with cases of an analogous kind, and in the treatment of which I have sometimes been so happy as to be very successful, while at other times my patient has not derived the least advantage, from the process, probably because, in the unsuccessful cases, the remedy was not the one which I ought to have adopted.

In Dr. Mackintosh's work, at p. 655, Washington ed., he informs us that he has treated twenty-two cases of dysmenorrhœa by dilatation of the os uteri, of which eighteen were permanently cured. "Ten of

these women were married and living with their husbands; of these ten, seven subsequently fell with child.

I beg you to be aware that the womb was not originally designed to be skewered, and I hope that in all cases, before you resolve upon this method of dilating the strictured canal of the uterine cervix, you will remember that the tissues being very delicate, all rudeness, haste, and improper violence ought to be avoided. It is very possible that your bougie might lay the foundation of incurable disease of the inner wall of the womb. The bougie is an allowable method; but it is never allowable without careful reflection upon the evils to which it might lead, as well as the real necessity for its employment.

I have already stated my belief that the uterus is the frequent subject of rheumatic disease. In the cases in which you may have reason to suppose that the malady is derived from a rheumatic vice, it will be reasonable for you to employ Dr. Dewees's celebrated volatile tincture of guaiacum, on which, you know, he placed so great a reliance, but which, in my hands, I am sorry to say, has not fulfilled the high expectations which were derived from Dr. Dewees's lectures and publications.

I think you will find advantage in using, a few days previous to the attack of dysmenorrhœa, moderate doses of the golden sulphuret of antimony, combined with camphor and small portions of opium or morphia; you will scarcely find an article possessing greater deobstruent powers, where an inflammatory excitement may be supposed to exist, than this special combination, which not only has efficacy to soften the pulse, to increase the perspirability of the skin, and promote the secretions, but is also an efficacious agent in the subduction of the nervous excitement or erethism, which must be supposed in such cases. In any instance clearly traceable to a rheumatic condition of the fibrous texture of the uterus, and in which you can indulge in a hope of doing good by purgatives, allow me to suggest to you the employment of Scudamore's mixture of acetous tincture of colchicum, magnesia, and sulphate of magnesia combined with some aromatic distilled water; you should, for this purpose, combine three drachms of acetous tincture of colchicum, one drachm of magnesia, and three drachms of sulphate of magnesia, with four ounces of any aromatic distilled water, as that of mint, cinnamon, or what you will. The dose should be preceded by a moderate portion of blue pill, or calomel, to be taken at bedtime, while the colchicum mixture should be administered the following morning, in wineglassful doses, repeated every second or third hour until the operation is sufficient.

It is important in all those cases where you wish to clear the reproductive organs of any accidental disturbing influence that may arise

from irritation of the rectum, dependent upon accumulation of feces or improper excretions there, to move the alimentary passages as preliminary to some more direct treatment. The mere removal of the heat and excitement dependent upon irritation seated in the lower bowel may be sufficient to set the womb at liberty to perform its menstrual act without pain, or the least distress.

I have already expressed to you my disbelief in the power of emmenagogue medicines, without withholding my assent to the opinion that certain medicaments are endowed with the faculty of increasing the determination of the blood, and of the nervous force, toward the pelvic extremity of the body. I have found it safe, convenient, and efficacious, with this view, to administer for a long series of days, weeks, and even months, portions of the common tincture of Melampodium or black hellebore, and I confidently believe that for different individuals to whom I have prescribed such medicament, the result has been most fortunate. I have prescribed from fifty to sixty drops of the tincture to be taken thrice daily, with an infusion of some garden herb, as pennyroyal, and, either *post hoc vel propter hoc*, the patient, who had suffered the greatest distress from dysmenorrhœa, has been in different instances entirely relieved of her sufferings. This result I have obtained so many times, that it has become habitual with me to make the prescription where some other indication has not had the precedence of it; such as venesection, purging, leeching, the bougie, etc.

I further believe that the use of the ferruginous tonics in the cases where the crasis of the blood is so reduced as to warrant them, ought not to be omitted, and that, in a person laboring under dysmenorrhœa, and in whom it is right to prescribe the tincture of black hellebore, it will be, in general, right to prescribe Dr. Blaud's pill, of which one may be taken three times a day; or a pill composed of two or three grains of Vallet's mass, thrice daily; or what, perhaps, is preferable to all the rest, two grains of Quêvenne and Micquelard's powder of metallic iron. The patient, under these circumstances, in all the variable and cold seasons, should be compelled, as far as the authority of the physician will go, to wear drawers of woollen flannel.

In the cases of dysmenorrhœa, in which there is pain in the uterine region during the intermenstrual period, and which is greatly aggravated during the menstrual epoch, an examination by the Touch might convince you that the organ is left in a subacutely inflamed state. In your treatment of an obstinate and serious malady of this sort, I should think you would deem it your duty to solicit an opportunity of inspecting the collum uteri by means of the Récamier speculum. It is not rare to find the interior aspect of the lips, and, indeed, the whole os

tincæ, red, turgid, and injected to such a degree as to render the arterioles et venules visible, as you find them often in the chronic diphtheritis of the pharynx. A general bleeding, or a topical abstraction of blood, by means of leeches, is among the likeliest means to counteract this morbid state of the circulation of the parts, which, as long as it is allowed to persist, might effectually contravene your merely therapeutical efforts. To obtain a cure, bear in mind, also, I pray you, this solid therapeutical truth, namely, the nitrate of silver, applied to a superficies, is among the most powerful, and least painful, of the antiphlogistic remedies in your power; and that, in aiding to cure the topical affections of which the uterus complains, it will aid you to rid the patient of constitutional disturbances arising from those lesions.

Many of these dysmenorrhœal patients complain of the discharge of shreds of an organized membranous material, which is doubtless exfoliated from the caducous coat of the uterus. If you don't like this idea of the caducous coat of the uterus, then, I beg you to say that, when such a membrane is discharged in dysmenorrhœa, the half-organized mass is not and cannot be the result of coagulation, but must be a plastic deposit, like the plastic deposit in croup, and like that in phlebitis, in pleuritis, peritonitis, &c., and *ipso facto*, proves the existence of an inflammatory state, because plastic deposits are not found except in a condition which deserves to be called an inflammatory condition.

Dr. Dewees regards this excretion as derived from a rheumatic condition of the uterus; you will see his reasoning on the subject, at page 106 of his essays on various subjects, Phil. 1803, and you will find that he was led from *à priori* reasoning to make use of the guaiacum in the cure of the complaint. At page 110, is his formula for the preparation of his celebrated tincture, which is in the following terms:—

℞.—Pulv. gum. guaiac.	℥viii;
Carb. sodæ vel potass.	ʒiij;
Pulv. pimentæ	℥iij;
Alcohol. dilut.	℔ij.

The volatile spirits of sal ammoniac is to be added, *pro re natâ*, in the proportion of from one to two drachms, less or more, agreeably to the state of the system.

Dr. Dewees is justly to be regarded as one of the most eminent practioners of midwifery in his day, and no American physician has acquired a wider-spread reputation, either at home or abroad, than he. His opinions are entitled to respect, and I refer you to his article on dysmenorrhœa, which every student ought to read; in that article you will find his directions for the administration of the volatile tincture of

guaiacum, with an account of the flattering results obtained from its employment.

I do not consider myself as treating his memory with any disrepect, when I suggest to you that it is rarely the nature of rheumatism to produce plastic secretions upon surfaces, and that in none but the most violent examples of rheumatic inflammation do we find plastic secretions, even about the articulations.

Be careful, in all cases, about your patient's diet, about her occupations, and about her whole conduct; think always what you have to do, and how it is best to be done.

I think, gentlemen, I shall have nothing further to say to you, at present, of dysmenorrhœa. I am,

Very truly,

Your obedient servant,

C. D. M.

LETTER XXXVI.

Gentlemen: In this letter, I shall speak to you on the "change of life," as it is commonly called, or that state of the female in which she finally loses the power of menstruation, ceasing from that time forth to be subject to the mensual law.

If I have been correct in the opinion I have entertained, and which in former letters I have expressed, as to the causes of menstruation, then I shall have only a light task to make you acquainted with the causes of the cessation of the menstrua, or Change of life. It is obvious that, if women menstruate because of the monthly ovulation and deposit, they cease to menstruate because the monthly ovulation has ceased to be a physiological function.

I have all along insisted that the power of germ production is a climax of life-force—one that is only attained when the body has attained its full and mature development, that is maintained as long as that body retains its healthful vigor and force, and that is lost often upon the smallest change of the health, and given up definitively when the powers of life, having been exerted during the prime and maturity of the forces, begin to fail, and the possessor to decline towards the last term of existence, which is stated to be at threescore and ten years.

There is something melancholy in the conviction, that must attend the final cessation of the menses, of a decadence of the constitution. The subject of such a conviction is compelled to admit that she has now be-

come—what? an old woman! Henceforth, what has she to expect save gray hairs, wrinkles, the gradual decay of those physical or personal attractions which heretofore have commanded the flattering homage of society—the slow augmentation of the weight of existence—when the grasshopper becomes a burden—when the keepers of the house shall tremble, and they that look out of the windows shall become dim. The pearls of the mouth are become tarnished—the hay-like odor of the breath is gone—the rose has vanished from the cheek, and the lily is no longer the vain rival of the forehead or the neck. The dance is preposterous, and the throat no longer emulates the voice of the nightingale. All these are melancholy convictions, and not even the fine false arguments of Tully, in his *Treatise on Old Age*, can drive away the painful truth or make the wrong the better reason. To be sure, religion can bring its consolations, its hopes, and its triumphs;—for religion can make us triumph over death and the grave, robbing them of their sting and their victory. Still, human we are, and we shall be human while the clogs of mortality still hinder and bind us.

What hope, then, has the woman who has come to the period of the change of life? Have you any comfort for her? Yes! She is no longer exposed to the direful risk and pain of childbearing. She thanks God for that, and takes comfort in the thought. She is no longer to be the subject of the monthly trouble, which, while it lasted, and still held up her claim to be numbered amongst the young, yet was often connected with sensations of ill-health—and annoyed her by its failure—its procrastination—its anticipation—its violence—its protractedness, and its pain. She has become fatigued with it and tired of it. She had lost her color, and grown thin, for it exhausted and irritated her, but now that she has laid it aside forever, her constitution, no longer teased and taxed with the necessity, takes a new start of life and vigor; she begins to acquire a certain embonpoint, and, as Colombat beautifully depicts it, she seems to recover somewhat of the beauty, and grace, and attractions of an earlier date. Many women, in fact, do find that the health is greatly improved by the dispensation. The complexion recovers its former tint, and new deposits of fat give roundness to the limbs, and efface the wrinkled traces impressed upon the features by care, and watching, and exhaustion; so that, though the loss of the catamenia brings with it the melancholy conviction that she is becoming old, there is a compensating conviction in the apparently renewed health and comfort that follow the change. A few short years, however, renew, but in a gradual manner, the evidences of the decline of life.

But the sort of moral impressions of which I have spoken, and which,

doubtless, are painful, are not the only evils to which the female is exposed at the change of life. I am sure that you will have no difficulty to conceive that an organ, or rather a collection of organs, that have been for thirty years concerned in the production of germs and in the performance of the great offices of menstruation, could not wholly cease from, and lay aside, those operations on which have depended both health and security, without hazard at least, or perhaps, without some fatal lesion of the health; and you should take into consideration that, during thirty years of menstruating and gestative life, the uterine arteries and nerves, as well as the spermatic nerves and arteries, have been subject to constant alternations of great activity and comparative repose.

Should we not then be prepared to expect that, on the commencement of this long repose, these organs should become the subject of some unhealthy action of their innervative and circulative forces, laying the slow, insidious, but disastrous foundations of disease, which, too often is not discovered or ascertained to exist until it has passed beyond the curative stages? Such reflections as these, it seems to me, ought to render you extremely cautious in inquiring into the causes of those complaints which women at the change of life often make, and which, I am sorry to say, are as often hushed with the unsatisfactory reply that such complaints are owing to the "change of life," and likely to cease whenever that change shall become complete. A physician has no moral right, by his opinion, to put to sleep the anxieties of his patient, and by so concise and unphilosophical a mode of proceeding save himself the trouble of thinking. Whenever, therefore, a female, at this period, which is universally admitted to be a critical and dangerous time for her, comes to you to complain of symptoms referable to some morbid condition of the reproductive tissues, do you not perceive that it would be most clearly your duty to give a considerate attention to her relation, and not dismiss her until your judgment should be fully satisfied as to the therapeutical or hygienical indications of the case? It will not be necessary, in all instances of complaints made to you of uneasy sensations in the pelvic region, to subject the female to the pain and mortification of the vaginal Touch; but, whenever the complaints are so considerable as to give you just reason to suppose some congestive or inflammatory modification of the reproductive tissues has taken place, it will be your duty to insist upon a full exploration of the state of the reproductive organs. Such an exploration, made in the manner already pointed out in former letters, will enable you to be perfectly satisfied as to the existence of disease in those organs likely to affect seriously the health of the patient. If, upon such exploration, you should discover

no reason to suppose the organs within the pelvis the seat of any morbid action, then it will remain for you to inquire into the state of the whole constitution of the patient. I have so often, in my lectures at the College and in this series of letters, pointed out to you the mode of making a diagnosis by the successive exclusion of all the organs and functions that you are enabled to pronounce to be in a healthful condition, that I need not here iterate the directions for making such a diagnosis.

It might well happen, one would think, that a woman, who for thirty years had been perfectly regular in her menstrual function, and who had, in a healthful manner, borne and nursed her children, might feel, upon the change of life, the want of her accustomed evacuations, and that without the existence of any mere local disorder. It is very certain that the habit of producing blood in quantities sufficient to carry on in a healthful manner, all the ordinary life functions, besides yielding an abundant material for the monthly waste, is likely, upon the subduction of that waste, to be followed by disorders in the state of the sanguine mass. You remember the opinion so frequently expressed herein, that the blood owes its existence to the activity of the Endangium or blood-membrane, as I have called it; but disorders affecting that Endangium modify the condition of the whole health.

Under these circumstances, the health will be modified by a condition of the Endangium tending to produce, on the one hand, plethora; on the other, anæmia. Now, you will find many of your patients complaining of ill health, in whom it will be impossible to say that it is the brain, the lungs, the liver, the spleen, the pancreas, the alimentary tube, the great articulations, or indeed any special organ that is the seat of special malady, while the ill health is really due to a change in the crasis of the blood. But, if the doctrine be true that the Biotic force is a product of the contact and combination of arterial blood with the substance of the neurine, then it follows that you will have to discover the remedies, or the treatment that may serve to bring the blood back to an absolutely normal condition, which, when it shall have been effected, may serve to restore to the whole constitution the salutary influences of a steady, perfect, equable innervation; which will be health.

The apparatus of digestion, in fact, may be said to stand at the very portals of existence, and any threatened invasion of the health is as likely or more so, to fall upon this point, as upon any other. Thus, in instituting inquiries into the state of the system in persons complaining of the change of life, it will be expedient for you to make inquiry into the wants of these alimentary organs. The peculiarity of their inner-

vation and circulation exposes them constantly to attacks of disease; this peculiarity consists in this, that the whole of the blood of the digestive arteries—which, you may remember, are the cœliac and the two mesenterics—is carried back to the black circulation by the vena portæ, which trunk itself is obliged to divide itself into a new series of venous capillaries, again to be reunited in the three hepatic veins, before it is finally returned to the right side of the heart by the cava.

Do you not readily perceive that so complex a condition of circulation in those vessels exposes them to constant engorgement and obstruction, interfering with the great restoring and replenishing power of digestion?

Such disorders are frequently and carelessly expressed under the terms, biliousness, indigestion, flatulency, acidity, diarrhœa, costiveness; and it is not reasonable to expect they are to be instantly and promptly removed by the administration of one or two doses of some trifling aperient, or by the exhibition of the so much vaunted blue pill or calomel.

The administration of a drug can never set aside the necessity for the observance of the reasonable rules of a hygienic method. Don't expect, therefore, to cure your patient without a careful prescription as to her whole conduct in relation to her diet, to her dress, her baths, her sleep and waking, her exercise, and a proper attention to the state of the alimentary organs.

By means of the exhibition of portions of blue mass, of calomel, of rhubarb, of the compound aloetic pill, and, in weakly and cold persons, of some warm aperient tincture, such, for example, as a combination of the compound tincture of cinchona and sweet tincture of rhubarb, in moderate doses, with wise prescriptions as to the nature of the aliment to be taken—you may hope to bring the digestive tube to a state of perfect health; which, once effected, opens up the way to the removal of all the other difficulties that may have been connected with the development of the constitutional or local maladies of the case.

It is easy to ascertain whether or not the digestive functions are restored to a healthy condition. The signs of such a condition are found by making inquiry as to the state of the appetite, digestion, defecation, and the sensations of the patient as regards the abdomen and the health generally.

Reference should be had to the condition of the strength; the color of the skin, its perspirability, its elasticity, its temperature; the condition of the tongue; the state of the lining membrane of the mouth and fauces, as ascertained by inspection, and the odor of the breath; the nature of the urine, as to quantity, as to color, as to solidity; the

respiration, and the action of the heart, the great source of circulation, to be ascertained by direct auscultation, and by an examination of the pulse; all these inquiries will give to you an answer to your question, "How is the patient?"—and you will not lose sight of her, I trust, until the answer is entirely satisfactory to your mind.

But there are circumstances, gentlemen, connected with the change of life, which often render it necessary for you to insist upon a direct examination by the touch as to the state of the reproductive organs.

It will be rare for you to find, at this age, in otherwise healthy women, any signs of leucorrhœa, or any follicular malady of these parts: such affections appertain to an earlier period of life.

You will meet with some cases of great relaxation of the vagina, which actually suffer the uterus to fall down upon the plane of the perineal strait, or even to take the position properly called procidentia. See Horace's *Epodes*, Ode viii. lines v. and vi.

The uterus, fallen so far out of its proper position, becomes a disturbing force to the economy. I have already told you, again and again, that the nervous system of the womb and reproductive organs allies itself intimately to the system of voluntary and ganglionic innervation of the economy; and it is as easy to suppose that a woman should feel perfectly well and comfortable with a dislocated humerus, as with a dislocated uterus; for I deem it perfectly true to say that a uterus, fallen from its just level in the pelvis, is a dislocated uterus—a term that expresses the idea of the case more completely and more trenchantly than the softer terms, uterine deviations and uterine displacements.

I can't pretend to say that, if you would push the uterus back to its own level with your finger, and keep it there for a short time, your patient would be restored by that act to consummate health; but I repeat that a dislocated uterus is a disturbing force in the economy, and that, whatever you may do or direct for the rest of her health, you will not be likely to have a perfect success, while you allow of the unmitigated operation of that disturbing force. Therefore, in your plan of treatment, there should enter some means of placing the uterus in its natural position and retaining it so. The mode of effecting this desirable object, it is not necessary for me to dwell upon again in this letter; therefore, I refer you to my letter on prolapsus, and the use of the pessary.

If, in the case, instead of finding simply relaxation and displacement of the womb, you discover upon its *ballottement* that the uterus is heavier, larger, and more solid than it ought to be, you will at once inquire whether the state of the general circulation as to its force and vigor will warrant you in prescribing a bloodletting; or whether you might

deem it more prudent to let blood by means of half a dozen or a dozen American leeches, applied to the collum uteri by means of a Récamier speculum; or whether it might be deemed more advisable to take blood by means of cups applied upon the sacral region; or whether you will rely upon the resolvent influences of the warm bath, or upon the application of some of the finer narcotic extracts to the interior of the vagina or the neck of the womb; such as injections of infusions of cicuta, or extract of belladonna, or injections of laudanum into the rectum, in the hope of effecting a complete subduction of nervous excitement and pain.

Twenty grains of the extract of belladonna, mixed with two ounces of mucilage of gum, will furnish you a compound, of which a tablespoonful may be injected into the vagina once or twice a day.

Half an ounce of cicuta leaves may be boiled in half a pint of milk, which, when cold, should be strained, furnishing a liquid, of which half an ounce or an ounce should be injected into the vagina two or three times a day.

If you prefer it, you may make use merely of an anodyne injection, made of forty drops of laudanum, mixed in half a fluidounce of boiled starch, to be employed as an injection every night, and if necessary every morning, of which you are to be the judge.

You ought also to remember the deobstruent power of contacts of the nitrate of silver with the vaginal cervix; particularly when those contacts are made with such a force as to prove not destructive, but only antiphlogistic ones, as the happiest effects may then be expected to follow them.

As to exercise, and as to rest, under these circumstances, it is impossible for me to give you explicit directions, for these are momentous questions, which can only be decided in the presence of the patient, and upon a good acquaintance with her real wants as to those points.

It is very certain that a long recumbency in bed, or upon the couch, is frequently found to exert a salutary influence upon the congestive and inflammatory conditions of the uterus, doubtless in consequence of the beneficent influence of what is, in surgery, called position, upon the circulation of the blood in these low dependent organs.

I beg leave, however, to suggest to you a caution as to the too long continuance of confinement to the bed, or to the couch, which is dangerous to the health, since some exercise, some motion of the body, some breathing of the fresh air of the open day, some relaxation from the perfect conviction of ill health, only to be had in the conscious power of motion, is necessary to restore the spirits of the patient, suffering under long chronical ailments.

Instead of meeting with these relaxations of the vagina, and descents of the uterus, you will, about the change of life, meet with some cases of extreme constriction and condensation of these tissues. It has been my lot to encounter several examples, in which the greatest alarm and distress were, as I thought, traceable to vaginal contraction and stricture.

I need not dwell on the disordered mental impressions of the patient, connected with the reduction of the caliber of the vagina, amounting almost to a state of *atretism*. I am strongly inclined to believe that a case of melancholy, which led to suicidal propensities and attempts, was justly attributable to such a conviction. Therefore, upon making such a discovery, I presume you would not fail to institute a treatment calculated to obviate such contractions, and I refer you to my letter No. IX., for directions as to the method of proceeding.

Among the most frequent and dangerous accidents to which women who do suffer at this critical period of life are liable, is the laying the foundation of carcinomatous disease. You will remember that I have already expressed the opinion that these frightful affections are the results, not of a direct inoculation of reproductive cells, but of slow changes of structure, brought about by unsuspected and unknown inflammations, which become, so to speak, the proper nidus, furnishing the requisite cytoblastema on which these cells depend for their development and indefinite increase.

If, therefore, upon making your vaginal exploration and taxis, you discover some suspicious degree of hardening of the collum uteri, and especially of the os tincæ; if you find some change of the form of the mouth of the womb, altering its oblong, or its dimpled shape, rendering it irregular in circumference, and imparting to the sense of touch the idea of botryoidal excrescences, or granules, then you will have just reason to fear that the fatal foundations are already laid; but, thank God that, as it is true every swallow does not make a summer, so every suspicion of the commencement of carcinoma will not warrant the conviction that carcinoma is come.

You will wholly fail of your duty, under such circumstances, if you omit to examine, by means of the speculum, the actual condition of the parts in question.

For a woman who has a true carcinoma of the cervix, I believe there is no hope to be entertained; but, be sure of the diagnostic; and if you can flatter yourself, or convince yourself that the malady has not gone to the extent of clothing itself with the direful characteristics of carcinoma, then there remains good hope of a cure, by a wise and careful treatment.

If it is not carcinoma, what will you call it? Is there any other name by which it can be named than the name of inflammation, whether

you deem it acute or chronical? But, if it be inflammation, what remedies have you? Have you not purgatives? Can you not appeal to the aplastic powers of mercury, to the deobstruent therapeutical powers of the narcotics, to the antiphlogistic uses of the lancet, the leech, the cupping-glass, the bath, emollient injections into the vagina, anodyne injections into the rectum, dietetic rules, and rest and reassurance of the patient? Have you not at hand the almost miraculously antiphlogistic powers of the nitrate of silver? I assure you that on many various occasions, in which, in persons approaching the change of life, I have on the first exploration been shocked by the conviction that the patient was attacked by carcinomatous degeneration of the uterus, I have, on further exploration and diagnosis, been led to the institution of attempts to cure, which have been entirely successful.

I repeat to you here what I have said in a former letter, that I do not boast of curing cancer, but in the course of many years of clinical experience, I have met with many extraordinary escapes from what I believed to be carninoma, but in which I had doubtless made a false diagnostic.

I shall not trouble you with further observations in this letter on the precise treatment of these cases, but refer you to the earlier letters of this volume for the principles and the treatment which you should adopt in their management. It would be but useless iteration to speak of them again here.

And now, my young friends, comes the question as to the time when the change of life takes place. As a general rule, it is safe to adopt a public opinion, though it may not be absolutely true that *vox populi vox Dei.*

That public opinion holds that the change of life takes place at forty-five years, and all our women look for the change at that time; but all our women do not change at that time; some women definitively lose their menstrua at thirty, and some even earlier. A lady with whom I conversed in March, 1844, told me that she became perfectly regular when she was twelve and a half years old; she bore twelve children; at thirty-five she definitively ceased to menstruate, and in her whole life never had the least trouble with her menstrua; she was as well at its cessation and since as she ever was. She was upwards of forty years of age.

I have a patient now under my care who, at the age of seventy-three years, is as regular as a young girl, and has been so since an early age. Allow me to cite for you a passage from M. Brierre de Boismont, p. 209.

"It has been said in a general way, that the cessation of the men-

strua takes place about the forty-fifth year in this country—a little sooner or a little later. The fact is true; but we believe that a better appreciation would be made by presenting a table indicating the different periods of the critical age. We have here collected one hundred and eighty-one cases of women indicating the age at which they had ceased to see, and here are the results:—

At 21 — 2	At 34 — 4	At 42 — 7	At 50 — 12
24 — 1	35 — 6	43 — 4	51 — 4
26 — 1	36 — 7	44 — 13	52 — 8
27 — 1	37 — 4	45 — 13	53 — 2
28 — 1	38 — 7	46 — 9	54 — 5
29 — 1	39 — 1	47 — 13	55 — 2
30 — 3	40 — 18	48 — 8	56 — 2
32 — 2	41 — 10	49 — 7	57 — 2
Making a total of 181.			60 — 1

This informs us that the cessation of menstruation may take place at very different periods of life, since here we have cases showing that it may take place in years, varying from sixty to twenty-one. But the proportions at which it occurs at the several ages are very different; for, while it rarely happens in the young, it happens very frequently about the fortieth year, is very common about the age of fifty, at which time it sensibly diminishes, and in the last years of the table it follows the proportions observed in the early years.

M. Murat, in *Dict. des Sci. Med.*, article Conception, p. 200, informs us that he delivered a person of her first child who was a few months beyond the twelfth year of her age.

Haller has an instance of as early a pregnancy.

On the other hand, certain women continue to menstruate until a very late period—for example, Valerius Saturninus was born when his mother was sixty-two; Valescus de Tarento had a case of labor in a woman of sixty-seven, and Haller mentions two instances, in one of which the woman was sixty-three, and in the other sixty-seven years of age. All these persons menstruated—so did not Sarai the wife of Abraham, who was old and well stricken in years, and with whom it had ceased to be as it is with women.

Among the singular instances of reinstallation of the reproductive force, in advanced age, is the following from old Rembertus Dodonæus, of whose pretty little duodecimo I happen to have a copy in my library. He tells it as follows—it is from his *Medicinalium Observationum Exemplaria*, &c., p. 292. The lady, it seems, was the prioress of a convent. She had long before ceased to menstruate, on account of her advanced age had become gray—had lost her molar teeth, and her breasts had

quite disappeared, while her face was covered with wrinkles. Being in this condition, her hair began to grow so as to cover the head with black tresses. She got a new set of teeth, and her menstrua returned with the greatest regularity, flowing as in her most healthful and vigorous youth. The breasts became again full and round and firm. All her wrinkles disappeared, and she regained the bloom and beauty of her early days, so that the virtuous and modest prioress was ashamed of her appearance, though she long continued her religious course of life.

The same author, at p. 293, tells us of a woman of his acquaintance who had a child after she was sixty, and two others afterwards, being sixty-seven years old when her last son was born.

I will not trouble you with any further statistical details on this point, which I consider as useless, preferring to refer you to the voice of public opinion, which, you perceive by this table, coincides with the truth.

You should be careful, in your early wants as to clinical experience, not to take every assertion as the truth. A young Doctor would do well to adopt as his motto the new-fangled French word *Panoptism*, which, to translate in an expression very common in America, would be set down in the words "wide awake." You are not to take it for granted, because a woman thinks that she has arrived at a critical age, that she is at the crisis; you, and not the patient, are to be the judge. If she be in the crisis, it is well, and you will act accordingly; you will not pester her with your vain emmenagogue treatment; if she be not in the crisis, you will provide such ordinances as may seem to be conformable to the requirements of the case. C. D. M.

LETTER XXXVII.

Gentlemen: There is a disease called the Protean malady, because it simulates so many other disorders that, like the fabled Proteus, it is supposed to be capable of taking on all forms. In common language, it is called Hysteria, from ὑστερα, the womb. The ancients used to call it suffocation of the womb, suffocatio matricis, and præfocatio matricis. It has been called πνιξ υστεριχη, and also απνους απνοια; the rising of the mother; and an Irish girl who came to our clinique, in 1843, as some of you may remember, replied, in answer to my question as to what ailed her, "The winding arrow, sir." "The what?" said I. "The

winding arrow," rejoined her mother. "The winding arrow? I don't understand you," said I. "Why, it begins at the bottom of her stomach, sir, and it goes winding up along the course of her bowels until it gets to her throat, and then it chokes her, and she has a fit." So we'll put down among other titles of hysteria, if you please, *Irlandice*, the winding arrow.

The question that first presents itself, after pronouncing the word hysteria, and when a person has already some knowledge of the phenomena of the disease, is this, videlicet, is it hysteria? that is to say, has the womb anything to do with it? and if the womb has anything to do with it, can a man, who has no womb at all, have hysteria? This is a question which has long divided the profession—many authors of rare merit, and great powers of discrimination, averring that it is an hysterical, that is to say, a womb malady; while others declare that it is wholly independent of the womb, and that males may have it as well as females. To reason this way may be said to be a reasoning after the Baconian or inductive method, which is not always the best way to reason, since a rational method may, in many circumstances, lead to results as perfect, as clear, and as stable as those obtained by the most careful induction.

If hysteria depend upon the womb, then a man, who has no womb, cannot have hysteria; then hysteria, you will say, cannot depend upon a disturbing force emanating from the womb alone. We seem to have come to a term in speaking in this way; but we have not spoken the whole truth, because while hysteria may, in fact, proceed from the uterus, hysteria may, in fact, likewise attack the male. As to this point, I think there can be no doubt, since the medical records are full of testimony bearing upon it.

The medical writers who have asserted that hysteria proceeds from the womb or the reproductive organs—for which the word womb should be taken as a general expression—have probably not understood themselves; doubtless they have intended to assert that, modifications of the reproductive power of creatures, which might be characterized as the aphrodisiac sense, or, if you will have it, the aphrodisiac force, are the causes of the protean or hysteric malady. I suppose they could not really mean to say that the uterus alone, disengaged from, and unconnected with, the other reproductive organs, is, by its disturbing force, the cause of the hysterical malady, for that organ itself is probably far less immediately connected with the development of the aphrodisiac force, in the economy of creatures, than certain other parts, as the ovaria or clitoris, for example; though it is perhaps just to attribute to this strange power of reproduction a wider range within the

economy than the narrow limits of the organs, properly called reproductive or generative. It seems to me that, while we may, strictly speaking, confine our notions of the aphrodisiac power to a status of a texture, or textures as parts of a general anatomy, yet we cannot deny its comprehensive influence upon the entire of the animal constitution. But, as the constitutional aphrodisiac force is an appurtenance of both sexes alike, then, if modifications of that force can produce that malady, they may be deemed capable of causing manifestations of the same phenomena equally in the male and in the female. To say, then, that an affection of the womb, as an organ, is capable of causing all the strange modifications of the innervative power, which are witnessed in hysteria, would be saying too much; but, if the aphrodisiac power is, in some at present unknown way, connected with a modality of the *reproductive apparatus* as a whole, it would not be travelling beyond the record to say so.

That force, you will not deny, is capable of influencing the whole physical, intellectual, and psychological nature of the subject of it; and, if even the conscience and the free-will must be admitted to be subject to morbid modifications, what hardness do you find in admitting, likewise, that morbid modifications of a power, so intense, so universal, so determinative of the whole constitution, might be capable of exhibiting itself in any or all the parts of the constitution in the strange and, so called, incomprehensible phenomena of the hysterical paroxysm?

I have already told you, in former letters, that very slight modifications of the state of the womb, as to its level or its direction in the pelvis, may exert a disturbing force upon the economy of the female, and it has been the custom, for two or three centuries past, to assign to the uterus the power of dispensing an aura—which might be interpreted a vapor, or a halitûs—which, pervading different organs of the body, draws them into diseased sympathy with the distressed womb itself. This term *aura* is probably at the foundation of the word so commonly used in speaking of the maladies of females—I mean the word vapors; for a nervous, fitful, wayward woman is said to have vapors—which I have regarded as synonymous with hysteria—so that a woman with vapors is a woman who suffers from an aura hysterica, an exhalation, a halitûs from the womb; but we have got too deep into the nineteenth century to entertain any further faith in the theory of vaporous exhalations from the organs, affecting other and distant organs.

Nevertheless, this word aura may be admitted to have some usefulness, as it has both an important signification in Medicine, and is a common parlance, for it refers to the sensible progress of an irritation from some ascertained point of the body to some other point, as from

the womb to the throat, where it produces a phenomenon called globus; or, from a distant point on a nerve in the leg or arm, to the brain, resulting in epilepsy; from the os uteri to the pylorus, or the breast, exciting vomiting, in the one case, and tumefaction or pain, in the other; and so, from one organ to some other organ, exciting its powers into sympathy with its own.

The dilatation of the cervix uteri in labor is, by many persons, supposed to be the not unfrequent exciting cause of eclampsia, which it produces by disturbing the brain, excited beyond all tolerance by the pangs of the dilatation. This you might take as a strong example of the power of the aura hysterica.

Let me repeat that the rigorous meaning of the term aura, as aura epileptica, aura hysterica, etc., was that a vapor, a halitûs, or an exhalation arising from an organ, and proceeding to involve another organ within the scope of its influence, is the absolute cause of the morbid phenomena in the organ which is secondarily affected. Now this term does express the fact that the suffering condition of one part of the body is capable of calling into sympathy other and very distant parts. It might be better, perhaps, and more precise, to use the word *sympathy* to express the idea attached to the word aura; and yet it is true, that in the case of what has been called aura, there is often a sensible tractus of irritation, or diseased perception, extending from some known leased point, as in the before-cited case. There are peculiar sensations experienced, from time to time, when an aura, passing either slowly or rapidly along the whole length of a leg or arm, and rising to the whole height of the head, explodes—so to speak—in the frightful manifestation of an epileptic paroxysm.

There is a most singular and most extraordinary exemplification of the influence of an excited condition of the aphrodisiac force, which you will find stated in the article Medication Antispasmodique, in Trousseau and Pidoux's Therapeutics. I will not quote it for you, but I advise you to take the first opportunity of reading it.

You may remember that, in the course of my lectures last winter, I cited to you, as a proof of the most intense hysterical modification, the condition of a woman in the last moments of the conflict of labor; and, indeed, I think that if you will revolve the whole scene of a labor in your mind, commencing with the first phenomena, and observing the progress and extension of the complication it introduces in the action of the various organs, you will perceive the most perfect example in the power of the reproductive system of organs, when excited, to call other portions of the economy into sympathy with itself. At the commencement of a labor, all is calm. The first pain is felt in the cervix

uteri, which is strained a little by the positive contraction of the fundus and corpus uteri, which strain it, the cervix simultaneously resisting by its own contraction. From this point of the labor, through the whole series of influences exerted on the brain, the heart, the lungs, the exhalants, the temper, the intelligence, I shall not follow the changes. I venture to say, however, that should you practice midwifery, you will have many occasions to compare all these modifications with those of the most exquisitely marked hysteria—and will be ready to regard them as proceeding from the same cause; videlicet, a modality of the reproductive apparatus, extending its organismal influence beyond its own boundaries, and into the domain of other organs with which it has ordinarily no direct anatomical connection.

I presume there are few practitioners of some years' standing who have not met with examples in males, of disorder so closely allied to the nature of hysteria, as to be with difficulty distinguished from some of the forms of that affection.

Dr. Marshall Hall, in his *Principles of Diagnosis*, p. 101, vol. i., has these words in relation to hysteria: "It is *almost* peculiar to the female state." I have only to ask to what other sex it could be *almost* peculiar; and, if it be *almost* peculiar to the female sex, does not Dr. Marshall Hall admit that it belongs, also, in some degree, to the male sex?

I saw within five years a gentleman, thirty-five years of age, who was married, and who had symptoms of insanity. When I was called to him, I found him insane, with extraordinary hallucination. In consideration of the state of his pulse, temperature, and intellectual disturbance, he was treated by bleeding, leeches, and purgation; which, together with a rigorous diet, with rest in bed, restored him. The pulse, which was at first feverish and hard, became soft and natural; he recognized his situation and place, acknowledged the hallucinations with which he had been affected, and was soon after allowed to leave his room; he rode out. After walking out too much, and having eaten immoderately, the fever was renewed, and the same extraordinary hallucinations along with it. The excitement was so great, that it was found necessary to bleed, purge, and confine him again to his bed. For the last three days, after taking a good many doses of laudanum in ten-drop doses, amounting in all to one hundred and forty drops, he was seized with a paroxysm, which I could characterize by no other name than that of hysteria. He had globus most exquisitely marked; he had rhythmical beating of his breast with his right hand, frequent appearance of strangulation, and clutching at his throat. These symptoms alternated with the most uncontrollable laughter, followed by

floods of tears, succeeded with laughter again, palpitation of the heart, and cold feet and hands, all of which continued to trouble him for nearly three days. The paroxysms were relieved after my visit by a few ten-drop doses of laudanum.

In my note of the case, I found these words: These phenomena are identical with those of hysteria in the female; he says he has pain about the throat, in the region of the occipital bone, and in the nucha; and he has a general uneasiness in the pelvis, strange sensations affecting the perineum, and this accompanied with frequent erections. I suppose I have never seen a more manifest example of hysteria in the male.

In conversation with him, I find that one of his hallucinations consists in a supposition that all his late attacks of insanity were the effects of a violent attachment which he had formed for a very young lady, with whom, I believe, he is not acquainted personally; and with whom, I know, he has never spoken, though he thinks he has indulged this love for her for many years.

I have reason for the above to suppose that, in this case, there is a morbid aphrodisiac element, which, if it be not wholly causative of his disorder, yet exerts upon it a modifying power.

The tremor of his lip in speaking, and the childish tendency to cry, remind me of the case mentioned by Sydenham, in his letter to Dr. Cole, on hysteria. The case of hysteria mentioned by Sydenham is found at the 320th page of Rush's Sydenham, Philadelphia, 1815. It is in these words:—

"And by the way I must observe that men are sometimes subject to such crying fits, though rarely. I was called not long since to an ingenious gentleman, who had recovered of a fever but a few days before; he employed another physician, who had blooded and purged him thrice, and forbid him the use of flesh. When I came and found him up, and heard him talk sensibly on some subjects, I asked why I was sent for, to which one of his friends replied, if I would have a little patience, I should be satisfied. Accordingly, sitting down, and entering into discourse with the patient, I immediately perceived that his under lip was thrust outward and in constant motion (as it happens to fretful children, who pout before they cry), which was succeeded by the most violent fit of crying I had ever seen, attended with deep and almost convulsive sighs; but it soon went off. I conceived that this disorder proceeded from an irregular motion of the spirits, occasioned in part by the long continuance of the disease, and partly by the evacuations that are required in order to the cure; partly also by emptiness, and the abstinence from flesh, which the physician had ordered to be con-

tinued for some days after his recovery, to prevent a relapse. I maintained that he was in no danger of a fever, and that his disorder proceeded wholly from emptiness; and therefore ordered him a roast chicken for dinner, and advised him to drink wine moderately, at his meals; which being complied with, and he continuing to eat flesh sparingly, his disorder left him."

Dr. Sydenham, from whom I have made the quotation, does not appear to suppose that hysteria is a disorder proceeding from the reproductive organs; on the contrary, he says:—

"Disorders which we term hysteric in women, and hypochondriac in men, arise from irregular motions of the animal spirits, whence they are hurried with violence, and too copiously to a particular part, occasioning convulsions and pain when they exert their force upon parts of delicate sensation; and destroying the functions of the respective organs which they enter into, and of those also whence they come; both being highly injured by this unequal distribution, which quite perverts the economy of nature.

"The origin and antecedent cause of those irregular motions of the spirits proceed from the weakness of their texture, whether it be natural or adventitious, whence they are easily dissipated upon the least accident, and their office perverted; for as the body is composed of parts which are manifest to the senses, so doubtless the mind consists in a regular frame or make of the spirits, which is the object of reason only. And this being so intimately united with the temperament of the body, is more or less disordered, according as the constituent parts thereof, given us by nature, are more or less firm. Hence women are more frequently affected with this disease than men, because kind nature has given them a finer and more delicate constitution of body, being designed for an easier life, and the pleasure of men, who are made robust that they might cultivate the earth, hunt and kill wild beasts for food, and the like."

Among the samples of hysteria in the male, one of the most complete and perfect is given by M. Louyer Villermay, in the *Dictionnaire des Sciences Médicales* sub voce.

The question resolves itself into this narrow compass: Is hysteria a disorder proceeding from a status of the reproductive system, by which I mean the reproductive force? If it be not, then there can be no reason alleged why males should not be equally obnoxious to it with females. Males are equally with females liable to apoplexy, to pleurisy, to bilious, typhous and typhoid fevers, and to all the exanthemata; and, if our disorder is not a sexual, it is a non-sexual disease, and applicable to the race, the genus, and not to male or female. If you argue that

the malady is really sexual or reproductive in its essence, then I don't see why you should not admit that though it be far more frequent and far more intense in the female on account of the far greater development, alliance, and importance of her reproductive system, it might be reasonably expected that the reproductive system of the male should also manifest its power occasionally to disturb in a slighter or less intense degree; since the relation of his reproductive apparatus are less extensive, and less impressive upon his organisms, than is the case with the female. He possesses neither the germiferous, the gestative, nor the lactative powers; nor is there in him any analogy to the great catamenial office of the female. But, as I have already remarked, those great powers and functions cannot but exert a vast influence over the whole of the organisms which, in their very creation, must have been endowed with a proper adaptability to the varying exercise of the general system of forces.

It is impossible to reflect for a short time, one would think, upon the nature of the aphrodisiac infusion in the sum of the vital powers, without admitting that aphrodisiac power to be one of the most essential for the conservation of the species; that it is a great modifying principle, both of the physical and moral character of the species; and has been so recognized from remote ages. We control it in the domestic animals by the various operations in which we quell it for the purpose of reducing them to a more perfect obedience, as well as for the purpose of modifying the nature of their flesh, and rendering it more valuable in the market. Hear how beautifully Virgil descants upon its powers in his third Georgic:—

> Omne adeô genus in terris hominumque ferrarumque,
> Et genus æquorcum; pecudes, pictæquæ volucres,
> In furias ignemque, ruunt: amor omnibus idem.
> Tempore non alio catulorum oblita leæna
> Sævior erravit campis.
>
> Nonne vides, ut tota tremor pertentet equorum
> Corpora, si tantum notus odor attulit auras!

Can the violent ebullition of life, so admirably described by this writer, be accounted for on any other principle than that of some abnormal or at least transitory exacerbation of the inherent power and influence of the reproductive system over the rest of the organisms? Do you think you can explain its many forms of excitement by merely referring to a modification of the systole of the heart, to a greater development of a calorific power, or to some sudden exacerbation of the general innervation, independent of the action of this essential force? Are they not explicable, rather, only in view of the impression made by

the aphrodisiac sense on the entire community of organs, lashing them into fury by its passion, and touching them with the contagion of its own exaggerated intensity?

Can you reason upon the continued existence of the species, or their perpetuation upon the surface of the earth, without perceiving that their perpetuity could find its guarantee only in some great principle implanted deeply in the whole constitution of animals, able to exert, and able to manifest its might, dominion, and authority over their whole vitality? Or can you contemplate the wonderful phenomena of reproduction in the whole of the series of animals, and not admit that it is a great primal, indispensable force of animals, a force by itself, as much so as digestion or respiration, and irrespective of the mere circulation, digestion, &c., as such?

But where is the seat and throne of this aphrodisiac power, this sixth sense, this reproductive perception, this conservative force of species and genera, as distinguished from all other faculties and forces? It exists in the reproductive tissues, and if you will excuse the figure, wraps them all in the embrace of its aura. It is diminished by their diminution, it is augmented, *pari passû*, with their development, and declines and dies with their extinction. But, since these reproductive tissues are anatomically allied both to the ganglionic and cerebro-spinal system, they may be presumed therefore to interest the entire system of innervations of the economy.

Have we not, then, sufficient ground here to establish the opinion, that certain states of the ovaries, and of the womb and its appendages, may be sufficiently impressed upon the rest of the system to waken among the organisms all those modified manifestations of vitality, which we observe with so much surprise in a paroxysm of hysteria? What are organs, indeed, but mere productions of, or evolutions from the distal points of the nervous tractus that the nervous mass has projected from its own central self? If the brain is ONE, then the disturbances of the reproductive extremities of it ought, under certain circumstances, to excite similar disturbances in other organs, evolved, like them, from the sole unique nervous-mass.

I do not propose that, in hysteria, the womb or ovary is acutely or subacutely inflamed; that it is in a hypoæmic or hyperæmic condition; the question is, whether the womb is the seat of such a mode of vitality as enables it to impose upon other parts of the economy a touch of its own distemper.

Cannot the liver, the spleen, and the kidney do so; and shall a man deny to the stomach the power to distress the brain and other organs, in states where its own apparent modality does not depart from the

most healthful tone? How, then, does the cephalalgia, the stupor, the coma, the precipitate movement of the heart, arise from a stomach suffering, to say the least, no organic lesion and evincing not the least sensible sign of disorder? It has been argued that the womb is not the seat and throne, the *fons et origo*, of hysteria, because we observe the most signal alterations of its texture, in disease, without the superinduction of hysterical affections; as well might we deny the influence of the stomach upon the brain, because we sometimes find the whole pyloric orifice of the organ invaded by carcinoma, without the supervention of the least headache, or coma, or spasm.

The causes of hysteria are to be found in a great variety of conditions, both of internal and external origin; among them may be named a highly nervous and sanguine temperament, the pathogenic propensities of which are promoted by a sedentary life and luxurious living, hot rooms, hot beds, highly stimulating food, the use of wine, of aromatics; a mind ill regulated, indulged, intolerant of control, highly impressible. In such an individual, any abnormal degree of excitement that might serve to add to the purely physiological action of the reproductive organs, you could well deem sufficient to send its aura forth upon its mission of mischief throughout the entire economy.

The greatest degree of the hyperæmic excitement is in the hypogastric and pelvic regions; but the blood may move commensurably with the hyperæmic status of the brain, and we see it rush in volumes to the vessels of the head where it manifests itself in the intense flush of the brow and the cheeks, and then commences the wild incoherent action of all the organs and functions that depend for their innervation upon the brain and cerebellum.

The whole spinal cord vibrates under the tension of the vital forces, roused to excitement by the reproductive and aphrodisiac power; cries, sobs, peals of immoderate laughter, tears in floods, stolid silence, cataphora, spasm tonic or clonic, tetanoid closure of the jaws, the most extraordinary rhythmical movements of the symmetrical halves of the body spasm of one side—rigid opisthotonos, sudden enormous meteorismus, profound coma, excessive secretion of limpid urine; all followed suddenly by the profoundest calm of the constitution, and a feeling of the sweetest complacency and amiableness. Such are the symptoms which leap out, as it were, from a profound repose, with a sudden and startling exaggeration.

Mr. Georget, in his observations upon hysteria, positively denies the assertion that any distress is felt in the hypogastrium, as asserted by Louyer Villermay, by Gendrin, and others; but I am equally sure that I have had my hand grasped with spasmodic force by a very delicate

lady entirely beside herself and insane with hysteria, and in spite of my efforts to the contrary, carried and jammed into the hypogastrium of the sufferer, and retained there with violence, amidst the exclamations of "Here, here, oh! here!"

I have seen three women, at the same moment, a mother and two daughters, all violently ill with aggravated hysteria, and all complaining of the most intense distress in the hypogastric region, all three promptly relieved of the paroxysms by pushing the uterus upwards in the pelvis, into which it had been deeply thrust by some supposed tenesmic force.

I have, in my note-book, under the date of September 5th, 1842, the case of a young lady, stout, healthy-looking, weighing about 130 pounds, subject to attacks of exquisitely marked hysterical passion—with sobs, laughter, and suffocation. In these fits, she always complains of something grasping her—to use her own expression—in the left hypochondrium, until she cannot breathe, and then suddenly letting go. I will not cite any further particulars of the case.

There is connected with the aphrodisiac influence a singular propensity in some females to simulate disease, and that, without any appreciable motive of interest. The skill and the perseverance with which the deceptions are carried on exceed almost the powers of belief. Dr. Laycock, in that most admirable work of his on Hysteria, a work for which he ought to be immortalized, as evincing in him powers of judgment reasoning and perception beyond what appertain to most mortals, gives us some extraordinary examples of morbi simulati. I must refer you to Dr. Laycock's book, a copy of which was published by my friend Dr. Bell, in that useful work, the *Medical Library*. It is within the reach of every medical student, and there is no medical student who should be without it. I have no time to cite those cases here.

There are examples of women under the influence of what I believe to be the hysterical malady, who are capable of developing physical disease upon the surface of the body by some power of the mind concentrating morbid actions upon parts of the surface, producing there the appearance of wounds. Such are the celebrated examples of the stigmated women, who, under an intense contemplation of the passion of the Saviour, have produced bleeding wounds in the palms, the soles, or even in the side; or at least seem to do so. We may believe this, *sauf toujours*, the fact, that morbus simulatus, the malingering power, is capable of deceiving all mankind. Persons instigated by interested motives, such as a desire to be discharged from military or naval service, or to escape from the performance of disagreeable duties, or to

excite the compassion of the public, are found to make use of extraordinary means of deception. But I have no doubt of the frequent occurrence of malingering from hysterical causes; as I have known young women to require the use of the catheter for months in succession, under a diseased conviction that the urine could not escape but by the aid of the catheter, I being equally convinced that it was an hysterical affection; a urinary monomania, in fact.

I have seen a woman simulate intense spasm, followed by profound coma; pending which, she endured, without wincing, the most painful treatment. In this case, although I suspected malingering at the time, I was wholly unable to verify it, until long afterwards; when she confessed to me that all her symptoms were assumed in order that she thereby might wreak vengeance upon her husband, whom she wrongly suspected of infidelity.

I have seen hysterical cough assumed by a woman and persevered in for many consecutive weeks, with such violence as to shock and exhaust in a great degree the health of the sufferer. She was in an eminent degree an hysterical person; and it is probable that she coughed three or four times a minute, save when asleep, during the whole of this time; and I know it was a malingering cough. In one unfortunate lady of great beauty and accomplishments, subject to exquisitely marked hysteria, I was the distressed witness of the fatal termination in consumption of a cough that was merely simulated at first, under the impulsions of an hysteric state.

What shall we say of the power of the aphrodisiac force when exaggerated into erotomania and satyriasis—that power that drives from the conscience of the woman the last vestige of female purity; and from her cheek the faculty to blush? The feats of Messalina are nothing in comparison to the manifestations of this power, sometimes met with in medical practice.

The diagnosis of hysteria is in general not difficult. The means of distinguishing the hysterical convulsion from the ordinary epileptic form; the hysterical from the apoplectic coma; the hysterical tetanoid from the tetanic spasm, are to be sought for in the history and antecedents of the case, the sex, the age, and sanitary habits of the patient; in auscultation of the heart; in careful comparison and judgment of the pulse; in the condition of the calorific power; in the duration of the paroxysm; in a certain character of the physiognomical expression where there is absence of all those profound and dangerous impressions that are inseparable from such great disorders as I have just named.

In hysteria, there is generally a moral cause, which sets in motion a machine already highly wrought and prepared for the movement. The

hysterical woman, like the highly electrified thundercloud, requires but the point to draw the flash. She sits, like Tam O'Shanter's wife,

> "Gathering her brows, like gathering storm,
> Nursing her wrath to keep it warm;"

when, suddenly and unexpectedly, some word, sign, or gesture, or the want of some word, sign, or gesture, gives the occasion; and we have reproaches, tears, screaming, laughter, sobs, wringing of hands, tearing of hair, clonic convulsions, tonic spasms, stupor, stertor, smiles like a May morning, loud laughter again, floods of tears, and then a gradual return to a state of gentle composure, wherein the tenderest affections of the female heart come to resume, with unusual supremacy, their wonted sway over the soul.

It is very true that I have not always inquired, or have not upon inquiry been always satisfied, as to the state of the uterus, and its appendages, in every case of hysteria that has fallen under my notice. But I have, in many of those cases, clearly discerned the connection between the morbid innervations and a known disorder of the sexual organs. In not a few instances, I have put a stop to the paroxysm of hysterical passion by balancing the uterus upon the point of my index finger, and thrusting it as far as I could carry it into the upper part of the pelvic excavation—thus temporarily relieving the innervation, from an irritation of the reproductive apparatus proceeding from a prolapsion, or retroversion of the uterus, from which probably radiated the whole of the provocation of the hysterical attack.

With regard to the treatment of the hysterical passion, some of the cases require therapeutical treatment, and some not: a patient may be brought to herself by letting her alone and leaving her alone; but in the wild and confused operations of the nervous and sanguine systems, and with the impetuous force of the blood observed in certain of the cases, there may be danger for some of the great vital organs. I have seen a case of pure hysteria resulting in coma, which terminated in the death of the patient, probably from sanguine extravasation in the encephalon. I believe that whenever the momentum of the blood is increased to a dangerous violence by whatever cause, that danger ought to be obviated by the means best calculated immediately to reduce it within safe bounds. A simple antispasmodic medication will not do in these cases; and I think you will not do your duty to the patient under the circumstances, unless by means of venesection you take away from the brain and the heart the material power to excite and to stimulate. You will always diminish the production of neurosity by diminishing the intensity of the contact of the oxygenated blood with the neurine. It is a very

common opinion, that in the nervous affections we do wrong if we take blood; and persons who dive not beyond the surface of things, for the most part hold to the opinion that you ought not to let blood except there be some inflammatory condition of organs, requiring that special therapia. I hope you will lay it to heart that a mere simple sanguine engorgement, the beginning of which has no connection with any inflammatory condition or propensity, may speedily terminate in the ruin of the patient by allowing of effusions or extravasations, and that such propensities may as clearly demand the use of venesection as the most active and clearly marked inflammations. It is not true, in fact, that spasmodic, nervous, vaporous, hysterical disorders, neuropathias, require to be treated solely upon the principles of the antispasmodic medication, and he who adopts such sentiments, no matter by what school or by what authority they are instilled into his mind, thereby virtually ties up his hands in a thousand and a thousand instances, in which a perfect freedom from the bonds of such a prejudice would render him a powerful and efficient practitioner of his art.

If you should decide upon bleeding in any case of hysteria, you may, after the abstraction of blood, concentrate the confused, heterogeneous, disturbed perceptions, upon a point, or several points of the skin, by violent frictions, and slapping of the hands, or lower extremities; by hot sinapised pediluvia; by mustard cataplasms; by Granville's lotion; by the powerfully concentrating sensation produced by the dry cup, especially if applied to the nucha, and on the interscapular region; after which, you may avail yourself of the antispasmodic therapeutical power which you can find in the assafetida, in the fetid gums, in castor, or in musk; or perhaps more than all in valerian, and particularly in the fine extract now prepared by means of ether. The inhalation of ether in this stage of the malady will be a safe and useful resource. I mean not the inhalation of ether to the extent of what is called etherization, and I advise you to make no appeal to such a power, since—in the disordered and heterologue operations of the hemispheres and of the tubercula quadrigemina, of the cerebellum, of the spinal cord, and of what is always a deep participant in the hysterical manifestation, I mean the medulla oblongata, and the vagus—no man ought to arrogate to himself the right to plunge these organs into the temporary annihilation of etherization; because, the co-ordination of their actions being destroyed in the hysterical paroxysm, there may be no regular succession in the influences of the ether upon the several parts of the brain. In that regular succession, the part that last yields is the medulla oblongata. What if, in this anomalous condition of the functions of the brain, it should be the first to yield? It is the source of the respiratory power;

when it ceases to act, the respiration ceases; and is not a woman dead when the breath is out of her?

I presume that there is not among the whole armamentarium medicum an article possessing the exclusive properties of an antispasmodic so perfectly as valerian; and I beg you again to take an early opportunity of reading Prof. Trousseau's remarks upon it, in his article on antispasmodic medication in his therapeutics.

If you should resolve, in your cases of hysterical spasm and excitement, upon its use, I advise you to administer it as the fluid extract just before mentioned; or, if that be not conveniently attainable, to give it in substance reduced to fine powder.

A large teaspoonful of the fluid extract in a wineglassful of sweetened water is a good dose, which may be frequently repeated; or a drachm of freshly-powdered valerian root highly fragrant may be divided into four powders; of which, one is suitable for a dose. Mix it in half a tumbler of fresh water, and make the patient drink it. Don't tell me that she can't drink it, or won't drink it; or that her jaws are set, and you can't make her swallow it. Her jaws will never be set so tight but that you can open them. How? Take two bits of ice, each as big as an egg; wrap each of them up in the corner of a napkin; then press the cold napkin against her masseter muscles on each side. As a general rule, the cold contact will scarcely be made before the masseter relaxes. But suppose you find a case in which it won't relax; then get the end of a spoon between her jaws, open them a little with this, and then substitute the end of a tooth-brush handle: now pour the liquid into her mouth. Do you say she won't swallow it? I reply she will swallow it, if with the end of the spoon handle you separate the base of her tongue from the velum pendulum palati, which will allow the mixture to get beyond the isthmus faucium, and when there, the œsophagus will transmit it to the stomach.

Anybody can swallow; I was almost ready to say you could make a dead man swallow. I beg you never to say of your patient—He is past swallowing—unless he be laboring under a paralysis of the pharynx and œsophagus; but you may practice for forty years, and never meet a case.

But to return. If the patient does swallow the powder, you will probably witness a very speedy diminution of all the spasmodic innervation, and a return of the constitution to a state of the profoundest calm.

Some time ago, I was summoned in a hurry, to see a beautiful little child seized with most intense convulsions, brought on by prava ingesta; among the attendants was a faithful nurse, who had lived a long time

in the family—a highly hysterical and nervous individual. Having been very much excited and alarmed, on account of the condition of her little favorite, she went into an adjoining apartment, where she fell into a most violent fit of hysteria. My attention being called to her, I wrote a prescription for half a drachm of powdered valerian, which was immediately brought to me, and I said to a young lady, standing near: "Please to mix the powder in half a tumbler of water, and bring it to me, and, with it, a tablespoon, and I'll show you something very curious. Now, see here"—said I—"here is this woman, whose mind, for the time, is abolished, and her body is, as you see, tortured by these violent spasms; now, I'm going to make her swallow fifteen grains of the powdered root of valerian, and do you look on, to observe what strange powers are possessed by certain medicinal articles over the human body. You shall see that, in about fifteen minutes, this great storm shall become a great calm." The woman could not swallow, but I made her swallow the fifteen grains. "Now"—said I—"look at her." In two or three minutes, her spasms became less, and in a quarter of an hour she was perfectly well. "Now, what do you think of that, my dear?"—said I. "I don't know what to think of it, doctor; but it surprises me very much."

I have said nothing about opium. What need have I to mention the name of opium in connection with such circumstances? It commends itself, by its very name, in all such cases; provided that you can render yourself sure that there is not connected with the paroxysmal manifestations some element of meningitis, or cerebritis, which you have not deprived of its mischievous nature by the salutary interposition of your lancet.

With regard to the treatment of persons in the intervals of the hysterical paroxysms, to which they are liable, I should be guilty of the fault of iteration were I to say much upon that subject, since I have so clearly expressed the conviction of my mind that hysteria is truly hysteria, and not ordinary nervous surexcitation. But, if hysteria be truly hysteria, it follows that, in the interhysterical periods, you should address your inquiries and your remedies to the condition of the reproductive organs, and those morbid states which are the "ipsissima causa morbi."

But I have spoken so much at length, in these Letters, upon these morbid conditions, that I shall here close the present one, referring you to many of the antecedent pages of this volume.

C. D. M.

LETTER XXXVIII.

Gentlemen: The change in the condition of the reproductive organs brought about by pregnancy, is in the majority of instances, too great to fail in producing phenomena approaching perhaps to the nature of disease.

It is necessary that the physician should render himself familiar with these phenomena. The pregnant state, in fact, is one full of interest to the medical Student or the practitioner of physic. I feel it a duty, therefore, to say in these letters something to you of the state of pregnancy, and the maladies and the inconveniences with which it is accompanied.

The fecundated germ in attaching itself to the lining surface of the uterus, may affix itself to any part of the internal superficies of that organ. I say the *fecundated* germ, because I wish to express the opinion that the germ may become fecundated without being followed by pregnancy. The germ is fecundated by the contact of the male sexual element, which imparts to it the power to develop the organisms and the whole nature of the animal in question. But pregnancy cannot be deemed to take place until the germ has established a mesenteric connection with the living surface of the mother. When, then, the mesenteric attachment takes place, the woman has conceived. Doubtless, thousands and millions of germs become fecundated that never form mesenteric attachments, and are consequently lost. The woman is only pregnant when the mesenteric attachment has been made. No matter where this mesenteric attachment is formed, the woman is pregnant when it is made. It may be effected in some part of the tractus of the Fallopian tube; or it may be made upon the surface of the ovary, the ovary being covered at the time by the fimbria of the tube. If the porule of the Graafian cell have been formed, and the male sexual element have been translated through the channel of the tube, and come in contact with the exposed ovule, still contained within the Graafian crypt, the ovule may be there fecundated and form its mesenteric attachment within the crypt, and then you will have an ovarian pregnancy case, and there is not another way in which you can suppose one. It is by some supposed that the germ may be fecundated within the grasp of the fimbria, and being once endowed with the development

power, if it fall into the peritoneal sac and there form its mesenteric attachment, it may then constitute a ventral pregnancy. An ovule may become fecundated on its passage from the fimbria to the uterus; it may be arrested in the narrowest part of the tube where it passes through the thickness of the uterus: the delay and the pressure are probably the causes why it sometimes forms its mesenteric attachment there, and develops itself in the substance of the uterus outside of its cavity, thus constituting what is called interstitial pregnancy.

Conception is never natural, never right, never safe, except when it takes place in the cavity of the womb. Please not understand me as stating that fecundation always takes place outside of the uterine cavity; it is probable that it most frequently takes place outside of the cavity, but it may also, perhaps, sometimes take place within the cavity of the womb. The fecundation takes place in whatever place the contact of the sexual element happens to be made. Conception takes place whenever and wherever the fecundated germ becomes fixed. Conception is affixation of the fecundated germ.

When a woman has conceived, the womb begins to increase in size; the increase taking place at first in the body and fundus and not affecting the neck. This growth of the womb is so rapid that it passes from the non-gravid state to the condition of the organ at full term of utero-gestation, in the short space of two hundred and eighty days; a space of time in which the most remarkable changes occur in the character of the organ, and in the influence of the organ upon the living economy. The non-gravid womb is about two and a half inches long, one and a half in the widest part, and one-half an inch in thickness; and its weight shall scarcely be found to exceed two ounces. The gravid womb at full term is often twelve inches in length, and its transverse diameter is equal to eight or nine inches; its weight, freed from its contents, is scarcely less than one pound, or a pound and a half. It exceeds by from eight hundred to twelve hundred per cent. its normal weight. The superficies of the cavity in the non-gravid uterus, cannot be more than two square inches, and probably not more than one and a half square inches. Whereas the internal superficies in the gravid womb at term is more than two hundred and thirty-five square inches.

The space occupied by it in the non-gravid state is, as you have seen, very small; in the gravid condition it constantly intrudes itself among the other organs, pushing them aside, distending some and compressing others, interfering with the flow of blood in the vessels and the ascent of the lymph in the tubes, and calling out of the general course of the circulation vast torrents of arterial blood, which it returns to the venous

circulation after having deprived it of its oxygen, and of much of its solid constituent elements.

Under such a view of the changes taking place in the womb, you have little reason to be surprised that the health of the woman is often disturbed. Do you imagine that the womb, when twelve inches in length by nine in breadth, and weighing a pound and a half, is the same organ that it was in the non-gravid condition? You call it, it is true, by the same name, uterus. But, if you inspect it, if you touch it, if you weigh it, if you analyze it, you will find it a very different thing.

Why is it that the womb suffers these wonderful changes of form, of dimensions, of weight? They are compulsory. The uterus has received the fecundated germ; that germ is an animal, and was before it came into the uterus wholly independent of it; and it will be while it remains in the womb equally independent of that organ. That is to say, it will be as independent of the uterus as the plant is of the soil in which it grows; if the plant be torn from the soil, it will perish, because it can nowhere find the materials for its development; and if the ovum is torn from its attachment, it will perish for a similar reason: but the ovum grows by its own force; it finds on the surface of the womb the elements which it knows how to assimilate for it own purposes. That assimilation increasing constantly its weight and dimensions, it is inevitable that, if it is to reside in the womb, that organ must yield to the pressure of the growing ovum; but, in yielding to that pressure, it is not destroyed; on the contrary, it is generically developed; it is augmented in size and in weight; its uterine arteries and its nerves, and its absorbent vessels, being all increased, not in number, but in length and in diameter. Greater quantities of blood furnish the material out of which this new growth takes place; and thus the womb, under the constant pressure of the augmenting ovum, is stimulated or excited to new efforts of uterine development-force—augmentation, hypertrophization. The increased magnitude and weight of the womb in pregnancy is the result of a normal physiological hypertrophy. Labor is the result of the effort of the womb to recover its non-hypertrophic state. Pregnancy presents, therefore, an example of a curable, nay, a spontaneously curable hypertrophy of the womb.

You know this to be true, because you know that the uterus at any period of utero-gestation has a constant tendency, I had almost said a constant *desire*, to return to its non-gravid repose. You know that it will begin to return to that non-gravid condition whenever with the point of a bougie or other instrument you rupture the membranes of the ovum and allow the watery contents to flow off. You also know that it occasionally happens that the uterus refuses to yield to the distension

of the growing ovum, which is then ruptured and expelled; or it is even expelled unruptured by the action of the muscular womb. Such a womb has been augmenting by a power of evolution—it has grown tired of the process, and returns to its rest by a process of involution.

I don't know what better argument I can present to you in favor of the opinion I have expressed, of the compulsory nature of the uterine development in pregnancy, than the one above stated. If you remove the cause, the effect ceases, is an axiom in philosophy: I say, that the cause of the growth of the uterus resides in the ovum, and I prove it by stating that whenever the ovum is destroyed, the effect of its growth, to wit, the growth of the womb, ceases *ipso factô*.

I wish to make this statement to you, simply because it is a physiological truth, but more than that, because it contains the most important chirurgical principle—a principle which you will apply a thousand times perhaps in your practice; a principle which, if you understand it properly, shall give you the gratification of rescuing multitudes of people from untimely graves, save you from the grossest errors in practice, and enable you to do honor to the divine art you profess, by showing its might and its beneficence, upon the most interesting and important occasions.

When the womb first begins to develop itself under the influence of the growing ovum, it becomes healthfully engorged, and of course grows broader, longer, and offers a larger surface of pressure to the superincumbent viscera. Both its augmented weight and volume, therefore, give it a tendency to descend toward the floor of the pelvis, and as it is attached to the bladder by the utero-vesical septum, and presses upon the rectum, which is both behind it and below it, and weighs down the uterine end of the vagina so as to stretch inordinately the ligamenta utero-sacralia, the woman will scarce fail to have some symptoms of a prolapsus or descent of the uterus, evinced by a more frequent desire to pass urine, and a tenesmic feeling of weight and dragging about the loins, and in the two iliac regions. Such symptoms, therefore, in married women, or women exposed to the risk of conception, you should regard as rational or inferential signs of the gravid state; symptoms not absolutely to be relied upon, but still of no little value, when collated with those hereafter to be mentioned.

When such descent does take place, it happens, notwithstanding the augmented volume of the uterus, that the hypogastric region of the womb becomes less protuberant than it was in the non-gravid state; so that the woman does not begin to grow larger, but really grows smaller in the early stages of pregnancy. Hence, the oft-quoted French proverb,

"A ventre plat, enfant il-y a."

Inasmuch as I do not profess to know what the essential nerve-force is, I cannot undertake to tell you how it happens that the earliest modification of the state of the uterus is commonly expressed by simultaneous modifications of the state of the stomach and the female breast. Perhaps the truest expression of the meaning here would be, that all the nervous complications of the economy with the gravid state—I mean all the pathological complications—are really only so many forms of hysteria. If I use the word *sympathy* to express it, you see that I shall only use a word, and not give you an explanation. A man who thinks he has an explanation, because he has the word sympathy at hand, is like those people in the Old Testament, of whom the prophet says, "They fill their mouth with wind, and their belly with the east wind." It is better to say, and to think, that, as the life of the whole constitution is made up of the lives of all the organs and organisms which that constitution inholds, it is reasonable to suppose that the pathological condition of any one of the important organs may disarrange the normal, ordinary rate of action of some other, and even of all the other organs. Life, in the womb, is, under this view, the sum of that of all the parts of the womb; and so of the assimilating organs, of the oxygenating organs, and of the entire constitution; but the life of one of the integers being disturbed, the sum total itself may be disturbed. If you have a cube made up of many smaller cubes, of which you take one away, or alter its form, it will no longer be precisely a cube; so, if the physiological condition of the uterus is changed, by pregnancy, it will disturb the rate of action in other parts of the economy, whose properties and powers are modified, because an important integer of that economy is modified.

The stomach sympathizes with the uterus as the breast does, and that sympathy is exhibited by anorexia, by acidity, by pica and malacia, by nausea, by the most obstinate vomiting and by excitement of the salivary glands, which, however, are part of the digestive apparatus. Thus, all modification of the nutrition, the coloration and the calorification of the patient, as well as changes both of her moral sentiments and her intellectural powers, may be results of sympathy in the womb.

The same sympathy, to use the word, introduces speedy modifications of the lactiferous apparatus. The milk granules of the breast glands, which have been inactive since the woman first acquired the menstrual or rather the ovulation power, now become roused into active conformability to the wants and forces of the constitution, and a new process of development is set up within them. This new force is at first manifested by an increase of the magnitude of the hemisphere of the breast,

dependent more upon augmented deposit of adipose tissue than upon immediate augmentation of the lactiferous apparatus; that augmentation is, however, perceptible, but it becomes strikingly so at a more advanced period.

The new life moving in the female breast also exhibits itself in increased deposit of pigmentum nigrum on the mucous body of the skin of the aureole which surrounds the nipple, and the whole aureole becomes so protuberant as to represent a segment of a sphere smaller than the hemisphere upon which it rests. The numerous papillæ which are observed near the margin of the aureole feel the genial influence of the new excitement, and become decidedly developed in size. These mutations in the character of the female breast are such constant attendants upon even the earlier stages of gestation, that they afford strong rational or presumptive evidence of that state. Pray, my friends, perpend the words, presumptive or rational; and do not suppose yourselves authorized to decide the existence of pregnancy upon such grounds as these alone. It is but just to say that it deserves considerable reliance; so considerable that Dr. William Hunter, to whom we are all indebted for his great reputation, as well as for the valuable works he has left to posterity, was accustomed to pronounce from it alone; so that upon one occasion, being in the dissecting-room, Mr. Clift showed him the body of a young female; and Dr. Hunter upon observing the state of the aureole, which was deeply colored by a deposit of pigmentum nigrum, said to Mr. Clift that the young woman had died pregnant; Mr. Clift rejoined that it was impossible, since the hymen was still intact; notwithstanding that, Dr. Hunter insisted upon it that she was in a state of pregnancy, and upon opening the body, an early ovum was found in the womb.

A woman who has become pregnant has the womb occupied and tamponed by the ovum, and even if the causes of menstruation should still remain active, they cannot produce the bloody sign of menstruation, since the pregnant womb will not bleed: it may be the subject of the mensual engorgement, and doubtless is so; but that mensual engorgement does not result in the menstrual hemorrhage, but disappears after a few hours, or after a few days. The old writers thought that the menstrual blood was designed to "*nouryshe the feature*," as they called it; and in one sense this idea may be assumed to be correct. What say you—Is it not probable that the process of hypertrophization by which the pregnant womb goes on daily enlarging, may be much helped and forwarded by the monthly aid of a mensual hyperæmia coinciding with the process of ovulation? Doubtless the ovulations do go on for several successive periods after the act of conception.

If the ovulation-menstrual doctrine is true, this is reasonable. Of the truth of that doctrine, I entertain no doubt; and I believe you will find it everywhere admitted on the part of practitioners, as well as on the part of writers, that early abortions are generally marked by a coincidence with the menstrual periods; and it is but a fair inference that the menstrual effort, in overcoming the resisting power of the vessels of the womb, is often the real cause of the hemorrhage of abortion. Hence, you have the inference that women prone to abortion, ought to be protected against that danger, by all the convenient or proper precautions, at or about the menstrual periods.

Supposing the woman to become pregnant, and that the succeeding menstrual effort fail, then she will miss her expected courses, and she will say: "I have conceived." She will have good reason to say so, if the ordinary state of her health had given her good right to expect the normal return of her catamenia, and if no accident or morbid cause whatever could be accused of intervening between her and her natural function.

Upon missing the return, the woman, as I said, will suspect herself to have conceived; but, as one swallow does not make a summer, so one failure of the menstruation will not give her assurance that she has become gravid. To show you, however, how strong this presumption is, on the part of women generally, any woman of the Upper Ten Thousand will so far rely upon it as to begin at once to make arrangements to procure her monthly nurse, and provide for the other exigencies of her accouchement. If she have the morning sickness, if she have the darkened aureole, if the next menstrual return should prove a failure, the inference becomes stronger. If the third menstruation fail, with the same accompanying phenomena, and with the addition of some slight protuberance of the hypogastric region, the inference that she is pregnant is greatly strengthened.

The presumption that she is pregnant is greatly strengthened by increased protuberance of the hypogaster, and the other concomitants; and more considerably, if she fail at the fourth menstruation. Still, she does not *know* it. At the fourth month, or more probably at four and a half, the child *quickens*, or, as the lawyers term it, becomes *quick* with life. Then she knows it—but you cannot know it.

Quickening has been understood, in the world, to mean that the child has become *alive*, whereas it was deemed to be not alive before. The lawyers begin now to recognize its rights in court; whereas previously, it had not any claims of the State. They will hang you for maliciously killing it after this act of quickening; but they will not call you in question on an indictment for the same act, committed antecedently to

the quickening. This is very great nonsense on the part of the lawyers, who would abolish their laws as to quickening if they understood the value of the term viability: then they would either defer the claim to the protection of the State to the seventh month, or, more wisely still, make it commence with the conception.

Quickening is, however, in its true sense, not quickening; it is only the first perceived motion of the fœtus. There was motion before—but motion so slow, so feeble, that the impulses against the womb were not strong enough to be felt, or perceived. The child at four or four and a half months has acquired so much muscular development that it can thrust its feet out, or move its hands, or suddenly extend its whole trunk and limbs, sufficiently to make the mother feel it. That is quickening. But do you not know that some children weigh four pounds, some seven, and some twelve pounds at birth? *i. e.* children grow faster and stronger in some instances than in others. Hence, it must happen that the period of quickening will vary in different women, and indeed in the same woman in different pregnancies; whence, the woman may feel her child at three or three and a half months. Many have felt it at three months: but the child may be so small, feeble, or torpid that it makes not its spontaneous motion perceptible till the fifth or even the sixth month; and cases are recorded where it has never been felt until the birth had taken place.

The quickening of the child generally removes all doubt of the woman as to the gravidity. She knows she is pregnant—for the child is quick with life within her womb. I say she knows it; but you do not know it—nor have you the right to say that she knows it.

Many a woman thinks she feels the motion of the child, when she feels some other motion; and if you, relying either upon her relation, or her good faith, should express your *medical opinion*, you might place yourself in a very unpleasant predicament. Suppose you rashly, on oath, declare to a court that you know her to be pregnant, when she is really not so, and knows she is not so! Or suppose you assert she is not so, and your professional oath serves to prove you rash or ignorant! Don't you see how wrong it would be to make professional assertions whose incorrectness must be exposed? and how much harm you do to yourself and to everybody else of the brethren? The scoffer has words put in his mouth—and the despiser wags his head at us all through your foolishness. For, in the worldly sense, DOCTOR is a genus—and if the scoffer can scoff at you he can scoff at me, and all of us. Don't, therefore, by false diagnosis disgrace yourself, and disgrace me, who am your teacher and you my pupil. It would be reversing the

axiom—"The *children* have eaten sour grapes, and the *father's* teeth are set on edge."

Depend upon it, if you confide in the rational signs of pregnancy, you will come to the day when you will be deceived.

The signs of pregnancy are RATIONAL or SENSIBLE. I have mentioned seven of the rational signs, and two of the sensible signs—to wit, the swelling of the hypogaster and the quickening. There are other rational and other sensible signs.

Toothache is a rational sign; since there are many women who never become pregnant without having toothache. I have heard them say: "Each pregnancy has cost me a tooth."

Hordeolum, or stye, is also a sign upon which women depend; since some women always have a stye in the early stages of pregnancy.

Ephelis, or the dark broad freckle which stains the brow, the cheek, and often the whole neck and bosom, is a sign which invariably accompanies pregnancy in many women; it probably consists in the deposit upon the inner surface of the skin, beneath the internal lamina of the cuticle, of a portion of pigmentum nigrum, and has an intimate connection with the operation of the same causes that invariably produce deposits of pigmentum nigrum beneath the scarf skin of the aureole. The deposit of pigmentum nigrum is everywhere augmented; there is a considerable deposit of it always in the axillæ, upon the perineum, the external surface of the labia pudendorum and the mons; and there is some connection, which it is difficult to explain, between the new life-force set up in the constitution, and the increased deposit of pigmentum nigrum.

One of the most common concomitants of the early stages of gestation is that which I incidentally mentioned a little while ago; to wit, salivation.

This probably has some connection with the disordered condition of the stomach brought on as symptomatic of the new state set up in the uterus by its gravidity. For the most part, it is merely an observable phenomenon, and does not call upon you for any therapeutical intervention; but the examples are by no means rare where it has actually become so distressing a disorder as to require that you should give advice in relation to its management. That it has a connection with, and indeed an immediate dependence upon the state of gestation, is to be inferred from the fact that it comes on with the beginning of pregnancy, and terminates with the termination thereof.

Here is an extract from my case-book. "September 6, 1842. Last night I attended in her labor, Mrs. X.; she was spitting saliva during the whole of the labor; she says, and believes, that she has spit a pint

and a half daily for the last eight months. In the former pregnancy she spit about the same quantity; in both cases, the salivation ceased within three days after the birth of the child. This lady, in her pregnancy, therefore, lost 4,880 fluidounces of saliva, without appreciably acting in an injurious manner upon her health or strength.

Mrs. Y., in her last pregnancy, spit at least a quart daily, from the beginning to the end of the gestation. It ceased the day after the child was born. She discharged during her pregnancy at least sixty gallons of saliva, without making her the least weak or emaciated. This lady derived more comfort from keeping a few grains of burnt coffee in her mouth, than from any other remedy that could be prescribed to her, or could be found out by her own ingenuity or experiment.

I am sorry to tell you that I know of no remedy, at all to be depended upon, for the management of these great salivations; they are the troublesome concomitants of the gestation, and they cease with the cessation of the gestation. They cannot be cured by alkalies or acids; by venesection or purgation; or by any therapeutical treatment with which I am acquainted. If it were just always to attribute the salivation to a state of the stomach, then it would be reasonable to apply remedies with a view to correct a faulty state of that organ, in hopes of curing the salivation. But you will observe that the patient whose case I last cited to you computed that she lost sixty gallons of saliva during her gestation, without rendering her thin or weak. Her digestive powers must have been very energetic to have prevented great loss of weight under such circumstances; and, in fact, her appetite was good throughout; and I believe you may generally calculate on finding it so in persons laboring under this affection.

If I am right in this opinion, don't you see how idle it would be to tease the woman with sickening drugs, in the vain hope of curing a salivation dependent upon other causes than the state of the stomach?

If you should meet with a state of salivation so great as to bring the woman's life into danger, you might confidently promise to cure it, if allowed to terminate her pregnancy by bringing on abortion. I am not to be considered here as advising you to bring on abortion or premature labor on account of salivation, as I presume such a thing has never been done. I merely speak of it here as one of the possible resources of the art in very extreme examples. I mean samples in which the health is so greatly endangered as to warrant you even in proposing so extreme a measure.

The nausea and vomiting of which I made mention in an earlier part of this letter, although they are not so rebellious against treatment as

the salivation of pregnancy, yet, in some cases, they occur so excessively as to give great embarrassment to the practitioner, and great distress to the patient. There are many of them which are uninfluenced by any treatment whatever—uninfluenced, I mean, to any considerable extent. I attended, a few years ago, a lady in Arch Street, who began to be sick at the stomach coincidently with the conception: there was no day in which she did not vomit; and it often happened that she vomited many times a day. When she had reached the full term of her utero-gestation, and had fallen into labor, the parturient force was greatly contravened by the incessant sickness of the stomach, and the violent efforts to vomit. I was so much annoyed by the perpetual irritation of the stomach, which appeared to me to protract her sufferings, by interfering with the functions of labor, that notwithstanding she was a primipara, I resolved to violate the wholesome rule which directs us not to rupture the membranes in primipara women. From the moment that the gush of waters took place when I ruptured the ovum, her sickness and vomiting totally disappeared, and never returned; the labor hastening to a favorable termination in consequence of the relief of her nervous system produced by this discharge.

You will sometimes be astonished to receive accounts from your patients of a vomiting that shall follow every meal; and upon careful inquiry it will seem—but it cannot really be so—that the patient shall throw up the whole of the ingesta. I had a lady in Spruce Street under my care, in her sixth or seventh gestation, who, from the sixth month until the completion of her term, vomited soon after taking her food every day; and it was incomprehensible to me that under such circumstances she grew neither weak nor emaciated.

I mention this case as having surprised me; and you will find yourselves much surprised and embarrased, when your patients apparently reject the whole of the ingesta. I have often been thus surprised during my long practice; and I beg you to believe when you shall meet with cases where, as I tell you, people seem to throw up all they take, and yet do not become emaciated, that therefore they do not throw up as much as they appear to.

September 18, 1842, I made the following note in my case-book: Mrs. ——n was married three years ago, and removed to Texas. In the month of March she became pregnant for the first time. About the first of April she had sickness and vomiting, which she daily experienced. In June she came by steamboat from Galveston to New York, and thence to her friends here: she has been vomiting daily since the first of April.

"How many times a day?" said I; "ten?"

"Ten! why, more than thirty."

"What! thirty times daily since the first of April?"

"Yes, sir, and more than that: I vomited every five minutes from New Orleans to New York, nor did I sleep one moment. I sailed from New Orleans on the 19th of June, in the evening, and arrived on the 27th, in the morning, at New York. I never slept; I vomited all day, and all night."

Her mother, who was present, says: "For many days together, I am sure that she has vomited more than sixty times a day; and, after straining long, she often brings up a thick, brownish, rust-colored ropy fluid, at times stained with blood."

A very large wash-basin filled with this substance stood by her bedside: she was thin, but not *very*. I found her with a hectical frequency of pulse, and a red tongue: she had constant salivation, amounting to more than a pint a day. Any rude motion of the child made her stomach sick. She had distressing cardialgia: her bowels were regular. I ordered for her a mixture of one drachm of carbonate of potassa, forty drops of laudanum, and six ounces of spearmint water, of which she was to take a tablespoonful occasionally. She could not take it, as it make her sick. On Tuesday I directed her to drink freely of champagne; the following Friday she was very cheerful, had slept well, had eaten well, had not vomited, nor been sick at the stomach. She had been taking anti-emetic remedies, under the care of one of my friends, for six weeks without benefit; the champagne seemed to have been a perfect remedy thus far; but I feared it would not hold.

On the 19th of September, I note that she vomits no more, that she has a good appetite, sleeps well, is not sick, and has taken the contents of a basket of champagne. She stopped taking it two days ago, and became sick. The champagne was repeated *ad libitum;* that is to say, very freely, and her stomach recovered again. She drank the contents of two baskets of the wine. She rode twenty miles to a funeral without indisposition. She returned to the city, sick again, and then vomited until the child was born alive at full term. When she had completed the eighth month, I was strongly tempted to bring on premature labor; but she went to term, and got well. The child was unhealthy, and was covered with pompholyx and eczema; and died at last of atrophy.

I have given you the trouble, gentlemen, of reading this long extract, for the purpose of showing you that the vomiting of pregnancy may, by long-protracted perversion of the innervation, pass into a true gastritis, or gastro-enteritis, as was doubtless the case with the lady whose history I have just related. You see that I could not cure her gastritis

while her pregnancy continued, though I suspended it for awhile by the use of the champagne, which, all things considered, I find to be among the best anti-emetics in these vomitings. I don't mean to say that it is always sure, but only that it generally succeeds: I have, at this moment, October 18, 1847, under my care, a young lady suspecting herself to be in the third month of pregnancy, and whose symptomatic vomiting has reduced her to a very extreme degree of emaciation, and whose stomach will by no means tolerate the champagne, which I lately prescribed in a confident expectation that it would put a period to her distress.

I, however, dare very confidently to advise you in all cases of obstinate vomiting, connected with pregnancy, to allow your patients to drink champagne *ad libitum;* since, in so great a multitude of examples of the kind, I have found it to procure a perfect relief. In the case of Mrs. ——n, above related, the irritation of the stomach had passed evidently into inflammation; and, notwithstanding I succeeded, by means of champagne, in apparently curing the malady of the stomach, you see that the provocative cause being still in operation, the disorder returned, and would not yield to the remedy; nor would it yield to any other remedy which I could employ. You will suppose that I employed a great variety of means, both therapeutical and dietetical, calculated to relieve the turgescence of the vessels of the stomach. But all my efforts were vain, for the cause still continued to act. The pregnancy was no sooner brought to its conclusion by the birth of the child, than all the phenomena disappeared, and, as I before said, she recovered her health.

It is a curious fact, that a positive malady of the stomach, one which would lead to the supposition that ramollissement of the tissues had taken place, one characterized by such perverse and rebellious opposition to treatment, should suddenly yield upon the withdrawal of the gestative provocation. Is not this a proof that the disease exists not, *essentially*, in the apparently diseased organ, but really in the nervous centre which created the organ and governs it?

In the simpler forms of the sympathy of the stomach with the growing uterus, when there are acidity, nausea, and vomiting, a good degree of relief may be obtained by the administration of the alkaline mixture, of which I gave the formula a little while ago, and which may be repeated from time to time, say every four hours. That particular combination of an alkali with the tincture of opium and an aromatic distilled water, is well suited to the exigencies of such a condition. It will be proper upon occasion to add to the dose five to ten drops of the aromatic spirits of ammonia; or to combine it with an infusion of ginger, or the fine extract of ginger, prepared by Mr. Frederick Brown,

of Philadelphia, a preparation which I am glad to recommend to your notice, as being quite equal in all respects to the celebrated extract of ginger prepared by Oxley, of London; an article exceedingly useful in many of the gastric affections of pregnancy, as well as in some of the digestive maladies of children.

In a great many instances, I have observed the vomiting and the nausea of pregnancy to be promptly cured by the following medicine:—

Take of

Sweet tincture of rhubarb, ℥ij.;
Tincture of gentian, ℥i.

Mix.

A dessertspoonful for the dose, once or twice a day; or a teaspoonful thrice a day, will suffice.

I presume the aperient and tonic properties of this compound render it so useful as I have found it. I beg you to make trial of it for your patients, and assure you that in many instances it immediately effects the cure, for which the sufferer is most thankful.

Many times have I been called upon to give counsel in case of morning sickness, as it is called, or the sickness of pregnancy; and unwilling, as I always am, to prescribe drugs when I can in any way escape such a necessity, and finding that the nausea is absent during the night time, while in bed, and that it returns upon rising in the morning, I have advised the patient to direct the servant to bring to her chamber at an early hour a cup of coffee and a toast; recommending to her to take a preliminary breakfast before venturing at all to rise from her bed, and after taking the breakfast, to resume a recumbent posture, which she should not quit for an hour or an hour and a half. During this time, the gastric digestion is nearly completed, and the stomach, being fully occupied with and set upon the train of the vital actions upon which this gastric digestion depends, is enabled to resist the morbid sympathies to which, under other circumstances, it would infallibly yield.

Whether the philosophy of the experiment be true or false, the fact is very true, as to many instances, in my practice. Where it fails, you have the consolation to reflect that it has cost nothing to the health of the patient; a consolation you do not enjoy when you have cupped and leeched, and blistered and calomelized, and teased both her inner and outer man, without having done her the least good, and with perhaps having done her a great deal of positive harm.

As the morbid sympathy in the nausea and vomiting of pregnancy must be admitted sometimes to take its rise in a qualitative state of the uterus, or rather, the reproductive system, it is clear that we shall not

err in our philosophy, if we suppose that means capable of changing this quality of the uterus may be resorted to for the subduction of the remote and troublesome symptomatic irritation. It is under this view that I have long been in the habit of endeavoring to subdue what I suppose to be some morbid or morbific condition of the gestative organ, by obtunding its sensibility by anodyne applications or enemata. The sick stomach of pregnancy is in many instances greatly lessened, and in some of them removed, by the use of forty-five drops of laudanum, mixed in an ounce of mucilage or clear starch, as an injection, at bedtime, and, if necessary, repeated at an early morning hour.

Riding in a carriage is often found to suspend the sickness of gestation.

A soluble state of the bowels, maintained by the use of enemata, or by any simple aperient medicine, is an important part of the treatment. Benefit has accrued in some of the cases from the use of a tonic infusion, composed of red bark and cascarilla, slightly acidulated with sulphuric acid, and rendered a little warm by the addition of Huxham's tincture. Such an infusion, carefully filtered, is by no means disagreeable to the taste, and serves to promote the appetite and the digestive power. I have tried leeches to the stomach, anodyne plasters, sinapisms, aromatic plasters, and a great variety of treatment, for the cure of the obstinate cases. After having been many years engaged in the practice of midwifery, I at this late day am obliged to confess that the sick stomach of pregnancy is a most intractable malady. I would certainly, had I a case again under my care so distressing as that of Mrs. ——n, take measures to bring on premature labor. I have to condemn myself for having permitted her to suffer so long as I did. She was in imminent danger of losing her life; and her happy recovery at the last does not confirm me in the opinion that I was right in allowing her to suffer so long.

When the patient has attained the seventh month of her gestation, the uterus has risen considerably above the umbilicus, and the abdominal parietes are excessively distended in order to make room for the distending organ. In proportion as the parietes become distended, the dimple of the umbilicus will become shallower and shallower. At the seventh month, it has risen to the level of the surrounding surface, or even forms a protuberance; and as the pregnancy proceeds, it even protrudes so far as to produce what is called the pouting of the navel, which is enumerated as one of the signs of pregnancy. The umbilicus is concave in the non-gravid state, because when the umbilical cord was cast off, six or eight days after the birth of the individual, the remains of the umbilical vein and the rest of the two umbilical arteries, which,

like the umbilical vein, are converted into ligament, by their condensation or contraction have drawn the skin about the umbilicus very deeply in toward the peritoneal lining of the abdomen: these ligaments have retained it there until the intrusion of the womb has stretched them, so as to allow the umbilicus to pout, as it is said. Pouting of the navel is rather the sign of a big belly than a sign of pregnancy; for you find pouting of the umbilicus in ascites, in encysted dropsy, in chronic tympanitis, and in whatever condition it may be that may cause the belly to become enormously enlarged; so that protrusion of the navel is worth something or nothing as a sign of pregnancy.

Strange modifications of the appetite, or a desire for dry and absorbent substances, is a common sign of the state of gestation. Some women are fond of eating chalk or magnesia, or charcoal, or anything that has either an absorbent or an alkaline character. This is the result of some gastric want, and not perhaps a result of pregnancy; it is one of the accidents of pregnancy, not one of its necessary accompaniments.

Strange desires, called longings, are said to affect pregnant women. I have never known any woman affected with longings, but they tell very curious stories; as of a baker's wife, for example, who longed to bite a piece out of her husband's shoulder. The value of such signs I leave you to appreciate. The ladies do sometimes bite without any longing. Pompey the Great came down one morning with a bite on his cheek; I do not know, however, that Mrs. Pompey was breeding at that very time.

There is a sign of pregnancy which is of some value. I mean the jutting of the hemispherical head of the uterus above the plane of the superior strait, where its presence may be detected by the palps of the fingers, while the patient lies upon her back with her thighs strongly flexed, to relax the abdominal muscles and integuments. But, such an experiment as this could only reveal to you the fact that the hemispherical head of the womb is there present; and though the inference is strong that it is there because the womb is gravid, it carries with it no demonstration of the existence of pregnancy. When hereafter you should find the uterus thus developed, I put you upon your caution not to pronounce your medical opinion upon the cause of the development. But, if the hemispherical head of the womb is there, and the woman from time to time perceives certain movements or impulses in the uterine region, the inference that those motions depend upon a living fœtus is a very reasonable one; yet still, it will not give you authority to pronounce your medical opinion, forasmuch as you are liable, under such circumstances, to be deceived by a uterine tumor, and by a fancied

and not real perception of motions on the part of the patient. You may be wellnigh sure, in your opinion, but you cannot be really sure in such opinion. The woman may be sure that she feels the movement —but you cannot be sure that she really feels it. Perhaps she only imagines it. Many a pregnancy has been mistaken for a tumor, and many a tumor for a pregnancy. I have a womb in my collection which has the scar of a trocar in it made to relieve a supposed dropsy. A medical man of the greatest experience lately declared that a girl was not pregnant. To prove that he was right, he pushed a catheter seven inches into the organ, whereupon he was convinced it was a tumor. The next day a fœtus of seven months was suddenly, to his great disgust, expelled. It lost its life, of course, by the doctor's mistake. How could you misapprehend the truth of the diagnosis, if you should carefully inquire whether the supposed tumor be alternately hard and soft, solid or unresisting? There is nothing could make it so save a muscular contraction. Hence, whenever you are at some trouble to decide whether the lump is a tumor or a womb, hold your hand on it for a long time—if it hardens and softens by turns, it is the womb, and it can be nothing else.

There are signs of pregnancy which will not mislead you; these signs are to be looked for in the double sounds of the fœtal heart. It has been said that certain sounds perceived by applying the ear either immediately, or mediately through the stethoscope, over the uterus, and which are called by the French writers *bruit de souffle utérin*, are reliable; for it has also been supposed that these are to be taken as signs of pregnancy. For my own part, I have not any confidence unless these sounds are accompanied by the beating of the fœtal heart; when that is heard, absolute knowledge as to the existence of pregnancy is obtained, for nothing but a fœtal heart can give the double sound of the heart's action. The bruit de souffle utérin may be perceived under other circumstances, and therefore is not at all to be depended upon as a sign of gestation.

There is a work called *Traité Théorique et Pratique d'Auscultation Obstétricale*, by J. A. H. De Paul, of Paris. Paris, 1847: 8vo. pp. 400. This appears to me to be a very erudite and accurate work, containing a good exposition of whatever is known by the profession upon the subject of obstetric auscultation.

Dr. De Paul, at p. 243, commences some inquiries as to the earliest periods of pregnancy at which it is possible to perceive this beat of the fœtal heart; and, after giving a statement of numerous experiments and observations which he had made for determining the question, he says, at p. 246: "From the foregoing facts, it appears that the double

sounds of the fœtal heart have not been perceived earlier than three months and a half, although numerous attempts have been made to discover them earlier than this period. It further appears, that I have perceived those sounds in a much larger proportion of women who had reached the end of the sixth month; and, finally, that in pregnancy at four months and a half the absence of these sounds is a very rare exception."

Dr. De Paul says, at p. 247, "I was consulted two years since, by a young lady, eighteen years of age, who was married on the 28th of July, who had always been extremely regular in her courses, and had them last on the 18th of the same month, that is to say, some days before her marriage. At the end of October [*three months*], when I was called to see her, all the rational signs of pregnancy had been for some time in existence. It was easy, through the supple and thin abdominal parietes, to feel the uterine globe, already jutting above the superior strait. As the lady manifested a great repugnance to the vaginal exploration, I was obliged to content myself with a stethoscopic examination, which I effected with all the precautions requisite in such a case. My first researches were for a long time without result; they terminated, however, in ascertaining the existence of the double pulsations. They were feeble, and difficult to hear; nevertheless, I could count them, and they were repeated one hundred and forty times per minute, while the pulse of the mother was scarcely eighty. The *souffle utérin* could not be discovered. Another examination, made eight days later, led to a precisely similar result, to obtain which I was obliged, as in the first case, strongly to depress the abdominal wall towards the pelvic cavity. This pregnancy went on regularly, and terminated by a natural labor, at the end of the following month of April." Dr. De Paul, at the 248th page, says that he "does not understand from this case, that the conclusion is established that such a result is always to be obtained." He is even inclined to suppose it a fortunate exception.

I am tempted to cite another case from the same interesting volume; and, as that volume has not been translated and published in this country, I shall translate and lay the passage before you. The case is as follows:—

"Mad. T——, who has already borne several children, had her courses from the 10th to the 15th of April. From the 17th to the 20th of the same month, she cohabited with her husband: he then left Paris on a journey, which was to last only a fortnight. Upon his return, which was early in May, he found his lady confined to bed, with the early symptoms of a typhoid fever, which, in a few days, became perfectly well characterized, and lasted twenty-four or twenty-five days.

Her convalescence required a lapse of time nearly as long; and new sexual relations were not established until after her recovery. Nevertheless, upon the first of August following, as her courses had not reappeared, I was requested to see her with a view to determine whether this retention, which was very naturally attributed to the severe disease she had lately suffered, might require the employment of certain remedies for its cure. I confess, that I was at first very much inclined to give up the idea of a pregnancy begun antecedent to the commencement of the typhoid fever: I was little inclined to suppose it might exist, computing it from the new sexual relations that followed her convalescence; but the examination per vaginam, enabling me to detect a notable development of the volume of the uterus, I fell back upon the first opinion, of the propriety of which I became fully convinced, when, after having applied the stethoscope, at various times, upon the inferior part of the abdomen, I discovered the double pulsations, which were repeated one hundred and forty times a minute, while the pulse of the mother was only seventy-six. I could not hear the souffle utérin.

"Her confinement took place in the following January. The child, which was perfectly developed, appeared not to have suffered the least during its gestation."

Here, then, gentlemen, you have a case in which the double sound of the fœtal heart was discovered one hundred days, or, three months and ten days after the fecundation had taken place;. and in which the pregnancy continued one hundred and seventy-four days after these fœtal sounds were detected by Dr. De Paul; giving two hundred and seventy-four days for the duration of the gestation, assuming that the fecundation took place upon the 20th of April, and two hundred and seventy-seven days, assuming that it took place upon the 17th of the month. It is clear that, in this case, it might have taken place on the 17th, 18th, 19th, or 20th.

With regard to hearing the double sound of the fœtal heart in auscultation of the uterus, though we may feel some surprise at the early detection of it in these cases, we cannot refuse to admit the exactness of the diagnosis, inasmuch as in both the cases we have statements of the rate of the mother's pulse. I examined this day, by auscultation, the uterine region of a young lady supposed to be three months gone with child; she has been very much reduced by a severe attack of the vomiting of pregnancy, accompanied with a hectical state of the circulation. There is nowhere to be discovered the least sign of the bruit de souffle, but a rapid double sound, coinciding with the double sounds of the heart, is heard whenever the ear is placed over the uterus; but these double sounds are those of the maternal heart, and not of the fœtal heart, for

they are perfectly coincident with her pulsations—but for this coincidence the diagnostic would be erroneous.

I relate these cases as encouraging you to hope to be able in the course of your practice to discover these proofs of pregnancy as early as they have been detected by Dr. De Paul; yet I beg you to believe, that such an early discovery is more likely to be owing to a fortunate accident than to any general facility to be met with, and on which you might rely in expectation of being able to make so early a detection.

Dr. Evory Kennedy, author of *Observations on Obstetrical Auscultation*, etc., Dublin, 1833, lately master of the Dublin Lying-in Hospital, says, at page 101 of his work: "Although we have, in a few cases, detected this sound even before the end of the fourth month, it will not, in the majority, be possible until a later period; and in those cases where it can be detected about this time, it is sometimes so delicate and feeble as to render it necessary for the individual exploring to have an ear well trained to stethoscopic sounds. In general, therefore, we look upon this phenomenon as not to be detected until after the period of quickening, when the uterus has risen out of the pelvis, and allows of our coming more immediately in contact with the part of it in which the embryo is contained."

Such is the opinion of one of the most practiced obstetrical auscultators now living. I beg you to remember this opinion, expressed by Dr. Kennedy; so that, when you come to make this obstetrical auscultation, you may feel no embarrassment, and exhibit none when you fail to detect the sound in those stages of gestation in which the sound cannot possibly be perceived. When the child has acquired a degree of development sufficient not only to render its motions perceptible to the mother, but sufficient also to render the sounds of its heart audible in auscultation, there is little difficulty; and the greater the progress of the pregnancy, the louder and more distinct the sounds; so that, from the sixth month to the conclusion of the full term, you will have just reason to expect to discover these sounds where they really exist; and not only to discover the sounds of the fœtal heart, in cases of single pregnancy, but those of two distinct hearts in cases of twins, the sounds being heard in different regions of the uterine globe.

I was going to say again, that I implore you never to pronounce definitively upon the existence of a pregnancy, unless you can clearly make out the sound of the fœtal heart; or unless you can touch some part of the fœtus in a vaginal examination; for you may be deceived by supposed motions, supposed resistances, supposed dimensions and forms, ascertained through the abdominal parietes. The two preceding methods, on which I recommend you to rely, can never deceive you.

How desirable is it that a physician shall not suffer himself to give an erroneous opinion. I assure you that I think nothing could tempt me to give an opinion in such cases, except I could deduce it from one of the two signs above mentioned. I may be ready to admit the extreme probability of the existence of a gestation; I may not dissent from the opinion of the patient herself; but for my part, I will not pronounce until I shall know. This unalterable resolution has conducted me safely through many difficulties, nor has it ever exposed me, as far as I know, to the least inconvenience or disappointment.

The obstetrical auscultation, as it is called, was really discovered by the distinguished physician, Mayor, of Geneva, though the credit of it is generally given to M. de Kergaradec. M. de Kergaradec read his communication upon the subject at the Royal Academy of Medicine, on the 26th of December, 1821, since which time great progress has been made as regards the precision of the results to be obtained by this method of diagnosis.

While I am treating on this subject, it may be as well to say that the obstetrical auscultation of the fœtal heart is highly useful to determine questions as to the life or death of the fœtus in utero, as well as questions relating to its health and safety, and the necessity of doing, or forbearing to do certain things in the conduct of a labor, as necessary for the conservation of the life of the child.

The same art of obstetrical auscultation may be most usefully applied for the purpose of ascertaining the presentation of the fœtus; the extremity of the stethoscope being placed in a situation the nearest possible to the beating heart, will determine the place of the heart; which, being nearer the os uteri or the fundus uteri, will determine the presentation.

I am not writing a treatise upon midwifery, but I can very readily conceive that the general practitioner who undertakes to treat the diseases of females, irrespective of their lying-in management, might have frequent occasion to examine the health, condition, and the presentation of the fœtus in utero; wherefore, I have proffered you these remarks.

There is a sound to be discovered by obstetrical auscultation, which is called the placental souffle, the uterine souffle, or bruit de souffle utérin, as Dr. De Paul prefers it should be called. This is a sound which you hear with your stethoscope, or ear, applied over the globe of the uterus, in pregnant women. That is to say, it is a sound that is heard, provided the ear or the stethoscope be applied upon that part of the uterine globe immediately under which the cause of the sound exists; for it does not exist in all parts of the uterus, being mostly to be heard

upon the sides, and also in the immediate vicinity of the placental attachment.

It is a blowing sound, and it often sounds like the rush of air issuing from the nozzle of a bellows when one is blowing the fire. Sometimes it is musical, and resembles very nearly the note of a dove cooing at some distance from the ear. It is in some instances like a faint breathing, and in others like a loud snore. It is unattended with any shock or suddenness. While you listen to it, and hear it with the utmost distinctness, it often ceases to be heard, and then recommences, although, in the mean time, you have not removed the stethoscope from the spot where you heard it, and where you have continued to listen. It is probably owing to the motion of the blood in its vessels, and is attributed to the escape of the blood from a narrower into a wider channel. For example, if the posterior lateral surface of the uterus should press heavily upon the primitive iliac, the external iliac, or the internal iliac vessels, so as to lessen, at the point of contact, the caliber of the tube, the fluid issuing into the uncompressed portion would probably occasion the sound of the placental souffle; just as the blood, issuing from the cylindrical portion of an artery, into an aneurismal dilatation of the same tube, gives out the aneurismal sound.

Some authors have supposed that the sound is occasioned by the rush of blood into the great sinuses and veins of the uterus; or that it is occasioned by the rush of blood from the veins of the uterus into the so-called cells of the placenta; and a variety of explanations, that have been offered for it; but nothing appears to me more clear than the one which I have presented to you above.

Dr. De Paul, whom I am willing to take as authority upon this point, thinks it is probable that the bruit de souffle exists for some time before it can be distinguished. I will allow myself in the criticism, that it would be better to say that the supposed causes of the bruit de souffle exist earlier than the bruit de souffle itself; for a sound that cannot be heard is not a sound.

M. Kergaradec mentions a case, at page 276, in which he heard the bruit de souffle on the eighteenth day.

M. Orfila refuses to regard this sound as a certain sign of pregnancy.

Dr. De Paul, at p. 206, says: "For my part, I do not hesitate to make the declaration, that the uterine souffle is not a certain sign of pregnancy." M. Jacquemier, of Paris, and M. Stoltz, of Strasburg, do not regard the bruit de souffle as a sign of pregnancy.

You will find in the course of your surgical studies, that tumors in the abdomen, from their pressure upon the great vessels, which pressure

interrupts in a partial manner the course of the blood at the points compressed, produce sounds not to be distinguished from the bruit de souffle utérin. Neither is it to be doubted that the empty uterus, after labor, in many cases, yields the same sound. Now if this representation be just and true, and I believe it to be so, what real value will you attach to the existence of this sound in any case of obstetric auscultation? It can have none at all; since it neither clearly proves the presence of the child, nor its life, nor its death. With these remarks, I shall trouble you no further with the placental souffle, which I advise you to entirely dismiss from the category of the signs of pregnancy.

As pregnancy advances, the uterus becomes constantly augmented in size. In those primipara women in whom the abdominal muscles and tegumentary tissues have never before been weakened by the distension attending the gravid condition, the globe of the uterus is strongly resisted by those muscles and tissues in its ascent into the abdomen. This resistance presses it against the firm solid back part of the cavity. For the most part, the uterus is in a flaccid condition, growing hourly, daily, weekly larger under the compulsion exercised by the developing ovum; yet it is true that, from the beginning of pregnancy to its end, the contractility of the uterus is frequently exerted at uncertain intervals, and that in such a manner as temporarily to condense and harden its fleshy textures. When so condensed, the hand applied on the exterior of the abdomen meets with a firm solid ball, incompressible during the contraction, its outline clearly definable by passing the hand over it, and disappearing after from ten to thirty seconds, upon restoration of the flaccidity of the tissue. But, when the uterus is thoroughly flaccid, it is impossible to define its outline through the integuments, the whole belly presenting the appearance of a uniform, soft, compressible, fluctuating tumor.

During these oft-repeated contractions of the uterus, and probably even while not in a state of condensation, the organ presses more or less heavily against the arteries and veins, as well as on the absorbent branches in the lumbar region, and also upon the sides of the pelvis, just above the brim. This compression of the absorbents, and of the veins, temporarily interrupts the free course of the lymph and the venous blood in their ascent towards the upper parts of the body, and causes the feet to swell. A strong pressure could not fail, in like manner, to contravene the freedom of the flow of blood, in its downward course, through the arteries; for the pressure of the uterus produces an effect like that of a tourniquet-pad, though in a very slight degree. For the most part, you may venture to say that the swelling of the feet is not to be looked for until after the sixth month of

pregnancy. Yet I have met with frightful cases of infiltration as early as the sixth month, and even earlier than that. In December, 1847, a lady twenty-two years old, of a fine robust constitution, was five months gone with child. On Friday and Saturday, her face was so much bloated as to change her physiognomy completely; her feet were infiltrated and her hands quite swelled, and she had a distressing headache. On Sunday, she could not go to church, though her husband was the preacher, on account of the headache. On Monday, she had great pain in the head. On Tuesday, still suffering with headache, and affected with great infiltration of the legs, she rode to town, twenty-five miles, in a temperature of 20° Fahr. in a carriage open in front. At eleven, P. M., she had a puerperal convulsion, and in twenty succeeding hours eleven other attacks of eclampsia; during seven of which hours she was absolutely comatose. She recovered her senses, and two days afterwards miscarried, and then recovered well. If she had been bled on the Friday, she would not have been ill on Sunday. In a subsequent pregnancy, she lost her life from convulsion.

The frequent interruption to the ascent of the lymph and the detention of the blood is necessarily followed, at first, by an increase of the halitus in the cells of the cellular tela, depending on some diminution in the power of the absorbents, which should carry it away; hence, by slow degrees, there is formed a collection of serous fluid in the cellular tissue of the lower extremities, which is manifested by an increase in the size of the ankle and foot, and which gives the lady a disposition to go about slipshod, or to take a larger pair of shoes. As the swelling increases, it becomes œdema. If the cause continue to act with a certain degree of intensity, the cellular tissue of the legs and thighs becoming thoroughly distended with fluid, they pit upon pressure, are incommodious from the weight, and not unfrequently painful from the distension. If the action of the absorbents is still more greatly contravened by the pressure of the uterus, the amount of the halitus produced must be *pari passû*, increased; and, as the infiltration goes on, the fluid in the upper part of the thigh passes into the cellular tela on the trunk of the body, where it infiltrates everything. It rises to the throat, which is enormously distended; it fills the arms, and bloats the face; so that the woman is, at last, afflicted with an enormous anasarca, which is the result of no disease, but dependent simply upon the accidental interruption to the action of the vector trunks in the lower extremities. It is probable that you will meet with some cases of this kind, which will fill you with surprise on account of the enormous amount of infiltration.

As I have already spoken upon the subject of infiltration in my fifth letter, I do not deem it necessary to enter here into any considerable discussion on the subject; my principal design and desire in the present mention of the topic being to make you clearly understand that there is a great difference between an anasarca arising from a morbid condition of the constitution, and an anasarca more properly to be denominated œdema gravidarum, or infiltration, which, taking its commencement in the lower extremities, depends solely upon accidental pressure of the gravid uterus upon vessels, and vanishes, like snow before the sun, as soon as the pressure is taken off. It vanishes, I say, like snow before the sun, sometimes under greatly augmented discharges from the kidneys, and sometimes without any perceptibly increased diuresis. A great diuresis would not be necessary, provided the cause of its production were entirely withdrawn; for the production having entirely surceased, the power of elimination exercised at the ordinary rate might be expected soon to remove every excess. It is hardly worth your while, under these views, to trouble your patient, and compromise the health of her stomach and bowels by the administration of drugs; for she is not sick, nor will your drugs have any other effect than to make her sick. She does not want a drug; she only requires that the pressure of the uterus should be taken off. The infiltration was an accidental result; the cause being removed, the effect is likewise removed. Don't give her physic for her accident!

Pregnant women have a great tendency to become constipated and to overload the colon with unknown and unsuspected accumulations of stercoraceous matter. Such accumulations add to the power of the pressure already too great; and common sense dictates that they should be obviated or removed. Let the woman keep her bowels in a soluble state: give her two or three rhubarb pills twice or three times a week; but this is not so good treatment as to let her take a couple of Lady Webster's pills immediately after her dinner, when the stomach is full of food.

But this is physic, and you can give her a pleasanter remedy than this. Let her infuse half an ounce of senna in a pint of boiling water for two hours; let her strain the liquor over a pound of prunes in a saucepan, adding to the mixture a handful of loaf sugar; let the prunes stew until they become well cooked, soft, and pulpy; after which, they may be poured into a bowl or jar for use. Now, a prune cooked in this way tastes as pleasantly as if it had been cooked in spring water; it will amuse her to eat six or eight of them per diem; they will keep her bowels open without griping or purging, and assist very materially in obviating the tendency to an increase of her œdema gravidarum.

I have no doubt that in case of pressure exercised by the womb, the veins and absorbents, being the weaker vessels, suffer a greater degree of compression than the artery, which is endowed with an elastic coat for the tube through which the blood is impelled by the energy of the heart's contraction. The blood of the femoral vessels and of the popliteal may reach their distal extremities with a momentum so great, that, favored by the diminished power of the veins and the absorbents, it rapidly increases the effusion and the infiltration. Hence, where a primipara woman has cause to complain of the infiltration of the lower extremities, and the arterial pulse exhibits a strength and momentum above the par of healthy action, it is highly reasonable, and sensibly conducive to her comfort and safety, to lessen the force of the blood's motion by opening a vein in the arm ; and this offers you an intelligible rationale of the common method, which is to bleed a woman whose legs are too much swollen.

I repeat that I am not writing a treatise upon midwifery; and that though you may not become obstetricians, yet, as physicians, you will often have charge of the health of pregnant women.

You have just considered the hindering effect of pressure upon blood returning from the extremities; I pray you now to ponder upon the effect which the same pressure would have in diminishing the flow of blood along the arteries below the bifurcation of the aorta, and the inevitable hyperæmia of the upper parts of the trunk and the members, coincident with such diminished flow downwards.

If your patient, in an advanced stage of pregnancy, wakes in the morning with her face bloated, her hands and wrists so swollen that she can with difficulty flex and extend the fingers, and this accompanied with pricking sensations affecting the arm, as though the member had been asleep ; with sickness, pain in the head, or vertigo ; you would at once refer such phenomena to their true cause, which is the polyæmic state of the upper part of the trunk and limbs. In the progress of the day, as she sits up and moves about upon her feet, the encephalic hyperæmia ceases, only to return upon taking the horizontal posture, and so, manifests itself again on the following morning, and so on from day to day. SUCH A WOMAN OUGHT TO BE BLED, because, if this hyperæmic condition be allowed to be renewed from day to day, for weeks in succession, the vessels of the brain will become habitually surcharged, exposing her to no little risk of apoplexy during her pregnancy, and greatly aggravating her liability to eclampsia at a time when, to the habitual hyperæmia, she comes to superadd the dangerous congestion that coincides with the excitement and the efforts of a first, hard, long, laborious labor. I shall now dismiss the subject of œdema gravidarum, satisfied that I have

laid before you all the explanations relative to it which seem to me proper in this place.

The duration of a human pregnancy may be stated at two hundred and eighty days, so that, if you have occasion to calculate for your patient the probability as to the period of her confinement, you should inquire concerning the date of the disappearance of her last menstrua. It is most probable that when fecundation takes place, it will take place soon after the disparition—within from one to four or five days; more likely on the first than on the fifth. The Jewish women, as I mentioned in a former letter, do not return to the husband's bed until eight days after the disparition, and yet they conceive and bear children; which is a proof that the deposited ovulum still preserves its vitality at that late period—and possibly as late as the twelfth or thirteenth day. Hence, a Jewish woman, who is going to make her computation for two hundred and eighty days, would begin on the ninth day after her last menstruation ceased. Some persons do always allow eight days to elapse before they commence the computation, and then add two hundred and eighty. But for more than thirty years that I have been in the habit of making the computation, commencing from immediately after the recovery, and allowing two hundred and eighty days, I have had no reason to change the method. Professor Nægele always adds the eight days. Mr. G., a German Jew, informed me that his brother's wife—*who observed the law*—had twenty-seven children. She never gave suck.

The same causes which produce the distressing infiltrations of which I have been treating, act on multitudes of women with such intensity as to establish for life a varicose condition of the veins of the lower extremities. I don't think that you will meet with a great many women who have repeatedly gone through the uterine gestation, in whom some of the veins of the lower limbs have not become permanently varicose; that is to say, enlarged, distended, tortuous, causing the appearance of dark venous stains in the tractus of the vessels. While not pregnant, and not sustaining the weight and pressure of the womb upon the vessels within the pelvis, these varices, although they exist, are not always troublesome; but upon the re-establishment of the state of gestation, the interruption of the flow of blood exists to such a degree as to render them highly inconvenient and even painful.

In proportion as a female approaches the term of her gestation, such a condition of the veins of her extremities become hourly more worthy of regard and attention; for it is dangerous in the extreme to allow the disorder to go beyond a certain limit, the overpassing of which exposes the vessels to attacks of inflammation, which constitutes phlebitis. I

have seen samples of frightful saphenal phlebitis supervening upon an unregarded varicose state of these vessels in pregnant women, and which resulted in death from pyogenic fever, evidently taking its origin from the points which I have just indicated. If there be in such a woman a condition warranting you to let blood, you ought to do so in fulfilment of a clear indication. Such a woman should be conscientiously instructed and warned against the danger to which she would be exposed by being long in a standing position, and she should be earnestly advised to observe a recumbent posture, not only during the night, but frequently during the daytime, with a view to allow the over-distension of the vessels to have some intermission.

Inasmuch as, under these circumstances, the texture of the vein may be considered to have lost its tone, its contractility, its power of resisting the lateral pressure of the blood-column, you ought sedulously to provide some succedaneum for the lost tone, which you can only find in what the surgeons call position, or in the use of a laced stocking, gaiter, or roller bandage; by either of which methods, the dangerous distension of the tube is prevented, and the patient safely conducted to the term of her accouchement; when, the pressure being taken off, she will no longer be subject to the varix gravidæ.

I shall close this Letter here, with the expression of my sincere respect. C. D. M.

LETTER XXXIX.

ANÆMIA GRAVIDARUM.

Gentlemen: There are not a few persons who, in the pregnant state, become affected with seeming diseases of the heart, characterized by irregular action of that organ, such as palpitation, great augmentation of the superficies of pulsation, dyspnœa, orthopnœa, paleness, convulsions, or sudden loss of sight and hearing, followed in the long run by œdema and true anasarca. I am speaking of persons who seem to labor under disease of the heart, and I speak, bearing in mind a vivid impression of divers cases that I have had the charge of in the course of my practice.

A pregnant woman ought to pass through the whole of her gestation without any feeling of disease; and many women do, in fact, conceive, develop, and bear their children without any apparent change of their

health or comfort. I have seen young women not far from term, skip up and down stairs as if they had not been married, preserving all their activity, agility, and appetite; their good spirits, their color, and their temperature; enjoying food; sleeping and waking, as if nothing was the matter with them. But there are some constitutions on which the influence of pregnancy is disastrous in the extreme; constitutions in which the gestation seems to be a direful effort of the life-forces that they can scarcely carry out, which they are often indeed unable to perfect, and which, in some instances, is perfected at the expense of the woman's health and life.

A woman who develops her child requires an augmentation of her hæmatosic power; indeed, it is but fair to say that she requires an augmentation of the hæmatosic power for the uses of her own constitution, applying it to the maintenance of her own developments which demand considerable reinforcements when the life-force is exerted with a preternatural energy. The reaper in a harvest field requires more drink and more food than the idler; the woman who maintains not only her own development, but also furnishes the materials for the development of the child, may, in respect to her wants, be compared to the reaper in the harvest field. But, an augmented development power is a power augmented at the expense of the nervous constitution or matter. There are some nervous constitutions that can furnish it without detriment, whereas others suffer the greatest detriment in doing so.

If the nervous system becomes affected by these efforts, it may show the affection in some diminution of its power, and the diminution of its power will be most likely to manifest itself as to the specific tissues that are most immediately subservient to the supererogatory demands of the gestation. Inasmuch as all development takes place at the expense of the blood, of which the consumption and waste are very great in the progress of a gestation, it is not, I think, unphilosophical to suppose that the specific tissue most likely to suffer under these circumstances, is the tissue which, in former letters, I have repeatedly mentioned under the title of the endangium of Mr. Burdach, or blood-membrane, as I prefer to call it. But, if the blood-membrane, in consequence of excessive exertion of its faculties, becomes weakened, becomes diminished as to functional force, then we shall have an imperfect blood. The blood becomes imperfect in regard to the proportion of its solid constituents which are diminished while the watery part is abnormally increased, and that would constitute a state of hydræmia. But a condition of hydræmia in a constitution bound to carry on the great operations of gestation, is one likely to be attended with faulty innervation—faulty

innervation, not only of the cerebellar and cerebro-spinal nerves, but of the whole ganglionic nervous system.

The patient will in this case become more or less emaciated, while her cellular tissue is infiltrating with serum or halitus, giving her at first the appearance of an embonpoint very likely to deceive the incautious diagnosticator. The increased proportion of water in the blood will at length give to her superficies a character of pallor or chlorosis, and the diminution of the universal tone will extend even to the heart itself, which may become so flabby as apparently to increase in magnitude, and give rise to a great increase of its pulsative superficies in auscultation, misleading the inquirer, and causing him to believe in the existence of a disease of the heart, whereas the disease is essentially an anæmia, or an endangial malady only. These are most distressing cases; they generally become aggravated in proportion to the advances of the pregnancy; and not unfrequently allow of such extensive dropsical infiltrations, not only of the cellular tissues, but even of the serous cavities, particularly the thorax, as to bring the patient's life into the extremest peril. Yet these maladies are not diseases of the heart; they are samples of anæmia, from which, often, the patient recovers with surprising rapidity, when the cause—videlicet, the gestation—has been brought to its term by the birth of the child.

In cases of organic disease of the heart, I mean vast dilatation of its cavities, there is, in general, little reason to expect a rapid recovery, or perhaps a recovery under any circumstances. But the anæmical dilatation, or, if you permit me to use the term, the anæmical laxity of the heart's fibre, might well, and in fact does, for the most part, disappear under an appropriate treatment, when its provoking cause, to wit, the anæmia, has been removed. I am very desirous that you should give attention to this theory of the case, and that you should endeavor, whenever you shall come to take charge of a pregnant woman affected with disease of the heart, to make a careful discrimination between the incurable organic lesions of that important organ, and the modifications of its density and contractility, that may be superinduced by a too feeble innervation of its tissues.

The most extravagant deviations in the heart's action that can be produced by the anæmical state are commonly found to be lessened and even to disappear wholly, when the patient is placed in a recumbent posture, and has had time enough to allow the accidental hurry and excitement which have been produced by exertion, motion, or emotion, to subside, and the rate of all the functional forces to come down to a condition conformable to the wants of the economy when in a state of profound repose. The anæmical disorder of the heart, under the sup-

posed condition of perfect repose, disappears in so far, at least, as it can be manifested by the respiration or by the circulation. This is not the case in the true organic disease of the heart, where, though the derangements of the heart's action, aggravated by exertion, are frightful, indeed, yet they do not wholly disappear even in a state of the most profound rest, but leave their physical signs so plainly discernible to the practised inquirer that he cannot be misled by them. The hypertrophic throb of a thickened ventricle, and the feeble imperfect action of a coincidently dilated auricle, can be detected by the ear, even after a long night's sleep. But the irregular, disordered, anomalous, feeble beat of the anæmic heart, often gives place to a perfect rhythm, impulse, and superficies, after such a repose has been had.

I am very desirous that you should make a careful discrimination in the cases supposed, and that you should not mistake the sudden but feeble impulse of the anæmical heart for the stern, resolute, and dangerous injective force of the hypertrophied ventricle. In the one, you will be prompted to use the lancet as a means of diminishing the excessive general momentum of the arterial pulse; in the other, you would prescribe absolute recumbent rest to save the constitution from the effects of the disordered and convulsive beat which follows every effort. You would direct a nutritious and light diet, you would give wine and iron, you would direct well-ventilated rooms, you would prescribe the use of moderate anodynes and antispasmodics, to blunt the exaggerated sensibilities of a debilitated constitution; and in so doing, you would conduct the patient wisely, if not safely, to the term of her utero-gestation, which, being completed, and the cause being removed, they leave you afterwards nothing to do but to contend against the pathological causes of the simplest anæmia.

But so much has already been said in these letters upon that subject, that I shall not offer any further observations here; and I refer you to those letters, in the confident belief that the pathological principles there explained are founded in sober views of important practical truths.

In the treatment of these anæmical cases, you will meet with prejudices against the employment of ferruginous articles; for the public in general, who believe that iron is endowed with what are called forcing properties, as regards the menstrua, are timorous as to the use of such therapeutical agents during gestation. They suppose that forcing articles have the power to produce abortion or premature labor, because they thoroughly believe that such forcing articles are capable of bringing on menstruation, in season or out of season. To you who have adopted the doctrines of the periodical ovulation and deposit, I need not say that the chalybeates have no such forcing power as is supposed,

and that the use of them during gestation is not less prudent and safe than that of any other tonic medicine whatever; and I have not the least misgiving as to the propriety and safety of employing them for the cure of these endangial maladies in women pregnant, whether in the early or in the advanced stages of gestation.

I attended here a few years since a young woman during the latter half of her utero-gestation, and during the labor in which it terminated —a case which was put in my hands by the advice of her medical attendant, on the ground that it was a very dangerous one, with which he was not disposed to charge himself.

She presented all the appearances of great dilatation of both the auricles and ventricles of the heart—the impulse of which was perceptible to the right of the middle of the sternum. The pulse, except when she was in a state of recumbent rest, was large, gaseous, unsteady, and very sudden. The face and the whole surface were pale and flabby; the cornea was nearly uncovered by the upper palpebra. The respiration was troubled, and became on the least motion or emotion, precipitate and difficult. At the end of the seventh month, the lower limbs became considerably infiltrated, and the power of muscular motion much curtailed in consequence of its being always attended with violent beating of the heart, breathlessness, and uneasy sensations in the head, as pain, vertigo, noises, and dimness of sight.

The progress of the pregnancy was accompanied with aggravation of all these appearances.

On different occasions, she had attempted to walk in her house, and had fallen on the floor in a state of insensibility. Being hurriedly notified of such an accident, I arrived on one of the occasions, at the house, soon after she was taken up from the floor and laid upon the bed.

I found her absolutely pale, scarcely able to speak, and completely blind. She knew my voice, and opened her eyes to look at me as I spoke: the eyes were bright, the pupils natural, but she was wholly without sight. She complained of some degree of fulness of the head. The pulse was still agitated. In a short time, the sight returned and was perfect as before. I do not recollect how many times she actually fell in this manner, and with such following phenomena, but the accident was repeated several times. In nearing the term, the swelling of the limbs from œdema was greatly augmented, so as to affect the thighs, and the buttocks, and labia; the pericardium became also the seat of a dropsical effusion, so that a complete orthopnœa soon declared itself.

My patient could not lie down day or night. If she sat up with a pillow against her back and shoulders, the oppression became so dreadful she was obliged to throw them away; but, requiring some support,

she placed her back against one of the posts at the foot of the bed: leaning on the slender cylindrical bedpost, she could find the needful support for rest without the oppression brought on by pillows or cushions. Here she sat day and night for many days, with very bad thin blood, which, of course, was imperfectly oxygenated, and so, greatly increased the disorders of the innervation. Her condition was truly deplorable, and it was difficult to imagine that the heart could ever recover its form, consistency, and power, should she even escape death in the impending conflict of labor. In fine, labor came on, and in due time I delivered her with the forceps, in order to save her from the necessity of exerting any voluntary force.

Soon after the birth of the child, she began to sleep upon pillows, which she allowed to be made up lower and lower; and at the end of the month of her lying-in, it was no longer a question whether she would recover. Her health soon became stronger, and now she is in consummate health. The heart presents no evidences of disease whatever. I have met with several similar cases.

I look upon it that all the distress and the peril of this young woman proceeded originally from an endangial malady, provoked into exaggeration by the demands of the gestative state on the blood-membrane. The whole scene was a representation of the effects and complications of a simple anæmia. Anæmical girls—girls who have passed badly through their puberic age and crisis—are more liable than others to be affected in the manner above described, if they subsequently to marriage become the subjects of pregnancy.

Women in pregnancy are liable to palpitation of the heart, especially dependent on anæmia.

I advise you, whenever you encounter the case of a pregnant woman who complains to you of sudden attacks of palpitation of the heart, to inquire carefully into the causes of such palpitations; more especially is it your duty to do so where the attacks of palpitation continue for a considerable length of time before the heart recovers its usual rhythm. A woman who, in her gestation, has an attack of palpitation that lasts from two to six hours, is absolutely in need of good advice; for notwithstanding I have seen cases of palpitation lasting from morning to night, and attended with the most distressing sensations, and the most complete disability of all the organs of relation, yet the patient, upon recovering the normal rhythm of the heart, seemed to be from that moment perfectly well, save of a feeling of debility, and perhaps some pain in the extremities, which, however, soon vanished by the aid of a little rest. I have seen the heart beating more than two hundred and twenty times a minute for ten consecutive hours, and yet the patient who had

been in such an apparently dangerous situation has evinced no considerable signs of disorder a short time after the cessation of the palpitation.

I confess to you, gentlemen, that notwithstanding the frequent examples of perfect recovery from such extravagant palpitations, I can with difficulty imagine that the individual can be safe during the existence of them; for the blood must reach the organs with a pressure, and with a momentum so different from those that attend a healthful state of the circulation, that the development force, one would think, could not fail to result in organic lesions in some of them.

And truly, these wild irregular actions of the heart do, in some of these cases, give rise to organic changes, and the heart itself, which is the first organ served by the systemic circulation through its coronary vessels, is the one perhaps most likely to suffer. When it does suffer, through its own illness and imperfect functional power, it gives rise to a patible state of the brain, which, in consequence thereof, determines imperfectly its innervations to the organisms, and so the whole constitution is overthrown and made a wreck.

What will you do with these palpitations, supposing that they are the result of pure anæmia? Here I pray you to take into consideration the case that I proposed in a former letter, of persons breathing at a vast elevation on the side or summit of a mountain, where the pressure of the mercury in the barometer allows the column to stand as low as twenty or twenty-five inches, not for want of a given number of cubic inches of atmospheric air, but for want of a given number of cubic inches of atmospheric air of a certain density. Such persons, you may remember, are perfectly at ease while sitting down upon the snow, or on a projecting point of rock; their pulses beating naturally, and their respiratory act being performed without any notable exaggeration; but, as soon as they begin to move, and call upon their innervative powers for extraordinary dotations of nerve force, the heart beats vehemently and irregularly, the diaphragm and respiratory muscles make the most violent efforts to carry on the respiration in the lungs; the head aches and becomes dizzy, and the traveller, after taking some twenty paces, is obliged to stop, and give rest to his respiratory and circulatory organs, in order that they may recover their composure and gain time for the generation of an amount of nerve force conformable to the wants of the next succeeding efforts in ascending.

Now your anæmical patient, as I stated in the letter alluded to, is in precisely the same condition as to the oxygenating power, as the traveller on the top of Mont Blanc or Yungfrau; and, if you permit her to continue to take exercise, or advise or compel her to do so, you act as

unwisely as M. De Saussure would have done had he insisted upon the members of his party continuing to make continued efforts to ascend, instead of allowing them to rest and recover their powers of innervation.

Continued exertion in an atmosphere so rare as that which is found at the highest altitude of mountains, is, perhaps, impossible; but if it were possible to urge the traveller onward without rest, he would doubtless perish from apoplexy of the head, the lungs, or some other apoplectic tissue.

If your patient then continues to labor or to exercise under these conditions, there is great reason to fear that some of the important organs will be compelled utterly to give way; whereas if you treat the case wisely, there is little danger of any of the organs giving way, and your patient will go on to the full time of her pregnancy, experiencing, perhaps, occasional attacks of palpitation, but recovering from them well, and in a condition to meet at last the conflict of labor without risk, and without much suffering.

When I meet with a case of palpitation from an ordinary anæmic cause, I feel that I shall not cure my patient, until I cure her by means of a trained exercise. I expect my patient daily to walk many miles, before her health can be completely established; but I do not allow her to begin the process of training, until first by a long rest, sometimes by a rest of a week or more in bed, I have prevented her from experiencing the abnormal innervation of the heart, which every imprudent or excessive attempt at exertion had not failed before to bring upon her. Send such a person to walk rapidly up a stairs, and you will find upon her returning that the most violent disorder of the circulation has been produced by the effort. Such excessive throbbings cannot but injure the texture of the heart by the experiment. Judge for yourselves whether, if such an experiment might be injurious when you wish to get the heart into good train in order to begin your cure, you ought to let the patient rest in bed, as I said, for a week or more, and then, commencing carefully, allow her to test the power of the heart by walking on a horizontal plane gently and slowly. If she can begin, she can go on day by day, further and further.

During this preliminary rest, I take advantage of the occasion to prepare her for the training treatment, by getting the skin into a favorable state, by procuring determination to the surface, favoring the operation of all the secretory organs, invigorating a little their tonicity by nutritious diet, by cordials and by tonics; and then when I begin to allow her to take exercise, I direct her to adjust the amount to her ability, increasing little by little, until I carry it up to the desired point.

If such a caution is necessary in the conduct of the cases of palpita-

tion, even in the anæmia of the virgin, how much more desirable is it that it should be applied to the cases of pregnant women; since the sequelæ of the palpitation are so distressing whenever there are superadded to them the constitutional excitement and the disturbance that must attend upon a violent or protracted labor.

I find that, notwithstanding my intention in a former part of this letter to trouble you no more with observations on the subject of anæmia, I have not been able to overcome the disposition I felt to give the above explanation. But I hope you will accept the explanation now; for the necessity of rest is as applicable to the cases of palpitation derived from the thickening of the valves, their laxity, their granulation, dilatation of the cavity, hypertrophy, dilatation or weakness of the great vessels, or indeed whatever direct causes of palpitation of the heart, as it is for those that depend upon simple, pure, unmixed anæmia.

In cases of pregnancy, accompanied with palpitation, and convulsive, or rather what you might prefer to call nervous action of the heart, among the very best resources of the materia medica is the digitalis purpurea. This is a pure narcotic, which, by its influence upon the nervous system, when properly administered, diminishes its excessive perceptivity, and in doing so is capable of lessening the manifest result, within the organs, of that excessive perceptivity which is always accompanied with exaggerated action of the reflex innervation.

Everybody, whether painter or poet, musician, agriculturist, or physician, becomes more or less a *routinist;* that is to say, he acquires habits in his actions; whence it is, I suppose, that you find some physicians who never prescribe digitalis except in powder; others who confide in it only when used as the tincture of the plant; while some never permit themselves to employ it except prepared according to the formula of Withering's infusion. I am in the latter category, and I scarcely ever give digitalis unless in the form of Withering's infusion, except where I give it to young children, and then I always employ the tincture. In the class of patients of which we have just been speaking, I commonly prescribe, when I think the use is indicated, half an ounce of Withering's infusion of foxglove, which I direct to be repeated once in eight hours. But I think it is necessary always to add a very clear and understandable caution as to the repetition of the doses. No physician ought to trust himself to prescribe such a medicine unless he can in person, or by means of a confidential agent, note the progress of its therapeutical force in bringing about the desired control of the circulation. When the pulse begins to fall in frequency, the administration of the drug should be either wholly suspended, or lessened as to the doses, or as to the periods; because the collapse which follows the ex-

cessive action of the medicine, being sudden, is a thing not to be thought of for a pregnant woman, for it is frightful enough for the non-gravid. "In morbis pectoris, per vias urinæ ducendum est," is an ancient precept, and the digitalis purpurea, perhaps, of all the articles in the materia medica, is most highly endowed with the diuretic force, which renders it peculiarly appropriate in the affection under consideration.

I need not lengthen this letter by specifying directions as to the prescriptions, and the formulæ of prescriptions, which will be required in the course of the treatment. If you be really well founded in the knowledge of anatomy and of physiology, you will be able, in contemplating the rate of the functions of the different parts of the body, so to direct your therapeutical prescriptions and your hygienical ordinances as to correct, if possible, the local derangement, and, by removing them, absolve the nervous system from the necessity of perpetually perceiving these local derangements, and perpetually contending against them by exciting what is called reaction.

There is another distressing affection which accompanies pregnancy, and about which I am desirous to say a few words. I mean the inconvenience and pain resulting from a strain of the pelvic articulations. The symphysis pubis and the sacro-iliac junction ought to be firm; the least motion of the pieces of bone that are bound together by these articulations is attended by a feeling of weakness, insecurity, and pain, in the highest degree annoying. I have seen a patient who could not take ten steps across her chamber without producing a sensible motion of the right and left ossa-pubis; so that, when she would stand upon her right foot, the os pubis of the right side would be raised at least a quarter of an inch above the left one, and *vice versâ*. But if you understand the nature of the auricular symphysis, you will perceive that the pubis cannot become a movable joint without involving more or less motion in the sacro-iliac junction, and that such motion must give a feeling of unsteadiness, insecurity, and debility, than which nothing can be more distressing: the woman feels as if she was going to fall to the ground between her thighs. Her inability is so great that she is obliged to call for assistance to turn in bed, or if not assisted, she first sits up in bed and then lies down on the opposite side.

It is probable that the perpetual *strain*, the weight, and the pressure occasioned by the presence of the gravid womb within the circumference of the superior strait, and the resistance of the abdominal muscles against the distending, growing uterus, all of which force, it must be admitted, is concentrated or expended upon the pelvic articulations, may determine a state of disease or abnormal vitality there, to be followed by infiltration and relaxation, or by partial softening of

the fibrous material, the result of which is the articular relaxation in question.

It is a vulgar opinion that the pelvic joints do naturally open to give escape to the child in labor; and among the common people it is by no means rare to find them making use of ointments and lotions for the purpose of promoting and softening the relaxation of the articulations. All such attempts are both unnecessary and futile. Whenever the relaxation does take place, it arises from the causes which I have just stated—causes that are, perhaps, fortified by a rheumatic vice which has fallen upon the parts.

The vitality of these low-lived tissues is so slow in its processes, that a great deal of time is required to effect any changes in their density; and I believe you will make a great mistake, if, when a woman, after her child is born, complains to you of relaxation of the symphysis, you should admit, what she will probably suppose, that the relaxation was produced by the strain of the labor. A labor shall scarcely last long enough to effect such great modifications in the life of these half inorganic materials.

I have met with a good many examples of this distressing accident in my clinical practice, some which have been perfectly cured in the course of a very few weeks, and some which have never recovered, and seem as if they were destined never to recover. The patient is so distressed that she asks for a treatment; nay, she asks for a cure. Now what shall be the treatment, what shall be the method of cure? Suppose you had a patient laboring under an inflammation of the hip, of the knee-joint, of the ankle, or of any other articulation, would you not treat it with a splint? And why with a splint? Would it not be that by means of the splint you might treat it by rest? Now the word *rest* is the other expression for the word *splint*. An inflamed joint, like a broken bone, requires rest, as a general rule, although it may have more exceptions than the case of the broken bone; yet it has few exceptions; for even in the case of the broken bone it might happen that where a false joint is formed, or is about to be formed, the motion might determine a cure by re-exciting the power of the periosteum, which is the bone-producing power.

I don't see much use in giving drugs to a woman who complains of loosened articulations. You might, perhaps, reasonably resort to some anti-rheumatic medication in the cases which you should deem dependent on a rheumatic vice, existing either as the original cause of the relaxation, or continuing to prevent its cure, or else as supervening in a part weakened by the causes before indicated, and in that way inviting an attack. Consider these points, and act accordingly.

I ought to have observed that Prof. Moreau, author of the *Traité Pratique des Accouchemens*, at p. 47, vol. 1st of his admirable work, assigns pelvic relaxation as the cause of some of the slow and difficult labors that are occasionally met with. He says, the muscles that are auxiliary to the uterus, having no longer a firm insertion on the vacillating bones of the pelvis, painfully affect the symphyses by their contraction ; and that the woman, restrained by fear of the pain consequent upon the contraction, fails to bring into play these accessory powers : so that the uterus, left to the resources of its own energy alone, frees itself slowly, and with difficulty, from the products of conception.

I am about to violate again a rule that I had laid down in the composition of these letters, which was, to put in them very few quotations from authors ; but the disorders arising from the cause in question are in all respects so interesting to the practitioner that I will not resist the temptation I feel to lay before you a translation from the same Prof. Moreau's work, the reading of which will serve to throw an abundant light upon the subject ; and as I have not met in my practice with any case so important, of our disorder, I think I shall do you a service in laying before you that of the learned Professor.

The following are M. Moreau's words : " Mad. D., of Paris, aged thirty-three years, of an apparently sound constitution, had been weak and delicate during her childhood, and had also exhibited some signs of rickets, marked by slight tumefaction of the articular extremities of the long bones. She became regular at fourteen years and a half, and then grew rapidly. From this time up to the period of her marriage, she enjoyed perfect health, saving that there was always a little weakness of the ligaments. She was liable to slight sprains, and had very little strength in her wrists. She was married at the age of six-and-twenty years, and soon became pregnant. The first steps of this new condition evinced nothing extraordinary. At about the second month, an excursion of five leagues from Paris, which she made in the course of one day, brought on a general uneasiness, accompanied with sharp pains, that were thought to threaten an abortion. The physician had her bled in the arm, ordered her to rest, gave her tepid baths, and directed a light regimen. The pains which during the first eight days had been so sharp that the patient while in bed was incapable of the least motion, became quieted; at least, so that she could be placed upon a sofa. At the end of a month, she tried to walk, but though the attempt gave her no pain, she could not take a step without finding herself ill.

" This inability to walk continued for some time ; however, towards the end of pregnancy, the young lady gained strength, and was able to walk with a little less difficulty.

"Labor pains came on in the night of the 16th of October, 1830, and had continued for twenty-four hours, when the forceps was employed to assist the delivery of a male child, in good health, whom the mother in vain attempted to suckle.

"During the first fortnight of the lying-in, she had severe pains in the hips and the parts of generation, which were attributed to lacerations occasioned by the passage of the child's head and the use of the forceps.

"After this, she made an attempt to get into an easy-chair, but fainted, and was again put to bed.

"At the end of six weeks, the lady attempted to walk from her bed to the sofa, leaning on the shoulders of assistants; but at every attempt she had sharp pains in the articulations of the pelvis, and felt as if her body would slide down between her legs.

"Five months having elapsed, she went, by the advice of her physician, to the country. There her hips being bound round by a bandage kept in place by understraps, she attempted to walk in the garden, but the attempts were always attended with suffering. Whenever the understraps were loosened, she said she had a sort of bursting sensation, with a desire to sit down, or to lie down.

"For ten months, she made use of gelatinous baths, baths of Barèges-water, and saline or astringent injections, but without any appreciable advantage. A consultation was then held between the accoucheur and MM. Magendie and Amussat. It was determined at the consultation that there was relaxation of the symphyses of the pelvis, the effect of which was, that when the patient was placed upon her feet and left to herself, she was incapable not only of maintaining such position, or of walking, but also of adducting the thighs.

"Madame D. was now ordered to wear a belt better constructed, and stronger than the one which she had hitherto used. This belt embraced the hips, both trochanters, and the upper parts of the thighs, so as to approximate them, and maintain the approximation with great energy.

"When supported in this manner, it is certain that Madame D. could begin to walk, not without difficulty, in her chamber, and sometimes in the street; but she could neither ascend nor descend a stair; it was necessary to carry her, to enable her to get up four or five steps. After two years of care, and of a treatment in which sulphurous, gelatinous, and aromatic baths had been employed, her health improved; she could walk better. At the end of 1832, she was able to take short walks, prolonged sometimes to the extent of five-and-twenty minutes; still, however, she always had pain on the day following such an effort.

"In the month of March, 1833, she became pregnant again. In the

course of the first three months there was nothing peculiar, except that she experienced great difficulty in walking. At the end of three months, her sufferings increased; at which time I was called in for my opinion in the case. In spite of her sufferings, and in hopes that the open air would give her strength, she continued until the fifth month to go to the gardens of the Luxembourg, a promenade from which she was separated only by the width of a street.

"Towards the end of August, upon returning from a walk, she had such violent pains in the hips, thighs, and loins, that she was obliged to keep first her chair, and her sofa, and then her bed, for the remainder of her pregnancy.

"On the first of December, 1833, at half-past four o'clock in the morning, after a labor of a few hours, which was neither tedious nor very painful, she gave birth, naturally, to a fine healthy boy.

"Immediately after this second accouchement, Madame D. lost all power of motion. In bestowing upon her the cares required by her condition, it was necessary to move her legs one at a time; but the limbs could never be moved without causing pain so violent that the patient could not or would not move, even to satisfy the most imperative wants. She groaned incessantly; cried out whenever she was touched; and if, in her uneasy sleep, she happened to change her position, she was immediately awakened by the pain, and unable, without assistance, to recover the position she had just quitted. Still, there was no fever, nor enlargement in the articulations of the pelvis, nor change in the color of the skin. The left leg was weaker than the other. The surface of the mons acquired such an extreme sensibility that the patient believed that the hair had become sensible, because the least touch or the least friction gave her pain.

"Narcotic and emollient applications, without recourse to bleeding; diet, the use of diuretic and sedative drinks, and two slight doses of purgative medicine, coupled with the most perfect immobility, sufficed gradually to dissipate these sufferings, which, in the course of a month after her confinement, totally disappeared.

"Nevertheless, the movements of the lower extremities became less and less free. . One fact ought to be mentioned, in which the case differed from her former confinement; she could not abduct her limbs. Whenever she wished to move them, she was obliged to move them both together to the same side; to effect which, she was, and still is, obliged to flex the knees, by drawing up the feet towards the pelvis, and then incline both the limbs towards the right or the left, as in incipient paraplegia.

"On several occasions, I expressed to the family my desire to be

assisted by the advice of some of my brethren, and especially of those who had formerly had charge of the patient, and who still saw her from time to time.

"Consequently, at the beginning of April, 1834, I met MM. Magendie and Amussat. After an attentive examination, these gentlemen, who had observed the case during the first confinement, ascertained that there was an enormous increase of the mobility and separation of the symphyses.

"It was agreed at the consultation, that, as a basis of treatment, the lady should be sent to the country, to a dry and elevated situation, where she should be exposed upon her bed to the influence of pure air and solar light; and that she should take saline, alkaline, sulphurous or aromatic baths; that she should make use of an animal diet, which should be tonic without being too stimulating; and that, above all, she should return to the use of a mode of constriction of the pelvis, which should be strong, methodical, and permanent.

"My colleague M. Amussat, who took charge of the treatment, and gave the most assiduous attention to the patient, was kind enough to see that the bandage should be prepared by a careful artist; a sort of mechanical girdle, which should embrace the hips, taking as its *point d'appui* the trochanters; the pressure to be regulated by means of screws. When the apparatus was applied, the patient could bear it only for a quarter of an hour at a time, although the buckles and the screws were not much tightened. The result did not answer the expectations that had been indulged, for, as soon as the machine was applied, she was attacked by slight fever, accompanied with very decided nervous spasms; symptoms that were reproduced upon every repetition of the experiment. It was necessary to give up the means as too energetic, and to recur to the use of the simple bandage furnished with buckles and strong straps, which the patient could tighten at will.

"Notwithstanding the most careful attention—in spite of the perseverance with which the above treatment has been carried out for two years; in spite of the employment of other therapeutical means, which, with many other interesting details we shall omit to mention, the lady remains very nearly in the state in which she was in the month of April, 1834.

"Having been called to her five or six weeks since, to take care of her in a new pregnancy, which began at the end of November, 1835, I find her in the following condition:—

"In the course of the two years during which I had lost sight of her, she has grown thin; the digestive functions are torpid, and often performed with pain; the alvine and urinary excretions are voluntary and

easy; the sexual organs retain the free exercise of their functions; the sensibility of the legs and thighs natural, but they have sensibly diminished in size, are more flaccid, softer, and have almost entirely lost the power of motion; flexion and extension are still difficult; it is impossible for her to lift up her limbs, and she cannot quit the horizontal posture. Upon exploring the symphysis of the pubis, either internally or externally, the bones are found more separate than in the ordinary condition. Upon lifting up one pubis, and pushing the other in the opposite direction, I thought I could perceive a vacillation of the bones, which the patient said she also could perceive."

I have nowhere met with a more interesting detail of the effects of the relaxation of the symphysis of the pubis than the one which I have now laid before you. Nor have I seen one attended with so total a loss of power as this described by Prof. Moreau.

I long had charge of the case of a lady, laboring under a strange susceptibility of the nervous system, accompanied with a loss of innervative power, so that, although she was at ease, and apparently well in a state of recumbent repose, a slight, even a very slight muscular effort was often observed to be followed by a severe attack of lypothymia. The digestive powers were not particularly affected, nor were the assimilative functions much interrupted by these strange maladies. It seemed at times that she was greatly benefited by the pelvic bandage; and I doubt not that the motion of the lower extremities was much more possible, and much less painful, when the bones of the pelvis were held in firmer contact by the aid of the girdle. She has recovered and lost again, two or three times, the power of voluntary exercise; she has given birth to several children, and is now in the possession of comfortable health. I always supposed that her maladive condition had its radiating point in an affection of the pelvic symphyses, which came on during fatiguing journeys, while pregnant with a heavy male child. I could always produce pain in the symphysis pubis, by drawing the cristæ of the ilia asunder with my two hands; but I could never give any pain by pressing the pubes together by placing my hands on the exterior sides of the pelvis.

I believe that such cases ought to be regarded as cases of rheumatism of these important articulations; and whether they be rheumatic or not, in their incipiency, the sprain, and injury done to the joint by gestation and labor, are sufficient to invite attacks of rheumatism, which, having once effected a lodgment in the tissue, can be with difficulty only, or not at all displaced.

In cases of relaxation of the pubic symphyses refusing to yield to a treatment consisting of absolute rest of the articulation effected through recumbency and bandaging, there will also, I think, be good reason to

accuse the part of rheumatism, provided we can exclude from the diagnostic any possible condition of active inflammation tending to produce suppuration or caries of the joint.

In the case that I cited at such length from Prof. Moreau, you see that the patient suffered for many consecutive years, and that the last note of the case left her still in very ill health. Do you think that such grave disorders of the health, and so great a persistence in them, could possibly depend upon mere relaxation of the fibro-cartilage that binds the ossa pubis together? Do you not rather concur with me, in the opinion just now expressed, that there must be some disorder over and above the state of relaxation in which the articulations are known to be! And is it not likely that the disorder is rheumatic? I should think that if you should come across a case such as that of Prof. Moreau, you would resort to an anti-rheumatic treatment; and that, for the subduction of the arthritic disorder, you would at least come to the conclusion that the use of a powerful counter-irritation and derivation, such as that of the seton, might assist to restore the patient's health. I imagine that such a seton as that of Dr. Grauiex would scarcely be objected to by the patient herself, as it would afford some reasonable ground of hope to relieve a torturing and disabling disorder.

I have proposed such a seton to a young lady at present under my care, who has suffered for years from manifest relaxation of the inter-pubic ligaments, whose general health, however, not having been deeply mined, leads her to decline the application of the remedy.

C. D. M.

LETTER XL.

ABORTION.

Gentlemen: Among the diseases and accidents of pregnancy, few are more common or more vexatious than those connected with miscarriage and abortion.

The full term of pregnancy extends, as I have stated, to about the two hundred and eightieth day from the fecundation of the ovum. It is most prudent, in making the calculation for the term, to begin the computation from the day of the last catamenial show: two hundred and eighty days from this date, the woman ought to expel the child. It is in this manner that I have made the computation for my patients for many years past, and as yet have found no reason for changing my

method or habit. It is true that the Jewish women, as I mentioned in a former letter, begin their computation after the eighth day subsequent to the disappearance, and that they say the calculation serves them well; but the other method has also served me well.

That very distinguished physician, Dr. Carl Franz Naegelè, of Heidelberg, is said to have long made the computation without failing to be correct, by adhering to the rule of commencing the count eight days after the menstrua, and not immediately after the cessation of the show. If Dr. Naegelè has been more fortunate than others, it may be that he was made acquainted with the customs of the Jewish women above referred to, and that the most prudent course would be to commence the calculation at the end of eight days. For my part, I have always made it as I have stated, and shall not change my plan.

Some years ago, there was a trial in England involving the question of the duration of pregnancy. It was called the Gardiner-Peerage Case, and was instituted for the purpose of settling the title of a claimant to that peerage. Many eminent medical men in England were examined on the occasion, and the result was that no absolute term of pregnancy was ascertained or assigned. Moved by the interest excited in that trial, Dr. Merriman, of London, took the greatest pains to ascertain in many women the duration of pregnancy, and succeeded in satisfying his mind of the great correctness of the computation as to one hundred and fourteen cases of *mature* children. The results of these inquiries he published in the *Lond. Med.-Chir. Trans.*, vol. xviii. part ii., at p. 338. He gave a tabular statement as follows: There were born at

255 days, 1	14 in 39th week.	288 days, 5
256 " 1	274 days, 4	289 " 2
259 " 1	275 " 2	290 " 2
3 in 37th week.	276 " 4	292 " 4
262 days, 2	277 " 8	293 " 2
263 " 2	278 " 3	15 42d week.
264 " 4	279 " 3	295 days, 1
265 " 1	280 " 9	296 " 2
266 " 4	33 in 40th week.	297 " 2
13 in 38th week.	281 days, 5	298 " 4
267 days, 1	282 " 2	301 " 1
268 " 1	283 " 6	10 43d week.
269 " 4	284 " 1	303 days, 1
270 " 1	285 " 4	305 " 1
271 " 2	286 " 3	306 " 2
272 " 2	287 " 1	4 in 44th week.
273 " 3	22 41st week.	

From the foregoing table, it appears that the term, or duration of a pregnancy, is not absolutely fixed, and that there is a considerable latitude as to the number of days the fœtus may remain in utero; some of them being rendered "mature" sooner, and some later, according to the amount of vital force they are endowed with: it is relative, perhaps, also to the strength and ability of the maternal constitution, and in some degree, probably, to the placental attachment and connection, as being more or less extensive and perfect.

From the table, you may perceive that Dr. Naegelè's mode of making the calculation cannot possibly secure you from a liability to error, since, even if the fecundation cannot take place until the eighth day, the indeterminate and latitudinarian duration of a pregnancy must frequently disappoint you. I advise you to study with care the works relative to the duration of pregnancy, and among them the three volumes *Sur les Naissances Tardives*, that were published in France in 1765, and which consist of tracts by the most eminent men of that period, some in favor of, and others in opposition to the doctrine of protracted gestations. Dr. Asdrubali, in his work on *Obstetrics*, devotes the whole of his last volume to show that a protracted pregnancy is possible, and has been so considered by the learned in all ages.

But, while the natural term of a pregnancy is about two hundred and eighty days, such is the delicacy of the attachment by which the fœtus is united to its parent, that many causes are found sufficient to separate it from the living surface before its time; while numerous diseases, to which its frail nature renders it liable, may serve to bring its life to a premature conclusion. By its death, the ovum becomes a foreign body, and it is expelled by the womb which it now irritates pathologically, and thereby excites the contractile force of its muscles, so as to give rise to the pains or contractions of a miscarriage, as well as the bloody discharge that usually attends those contractions.

It should be considered, that though the fœtus is contained within the cavity of the womb, it is prevented from all direct contact with that organ, except by the placenta. It floats in the water of the amnios, and the interior of the womb is lined everywhere by the amnion and chorion.

This placenta is properly to be esteemed as an expansion of the main trunk of the fœtal aorta—just as the retina is an expansion of the optic nerve—inasmuch as the aorta of the embryo divides, above its pelvis, into two umbilical branches, which, as they pass down towards its brim give off the iliacs—and then reflecting themselves upwards on each side of the bladder, proceed through the umbilical ring and along the cord to the placenta, which is another name for their umbel-like divisions, expansions, or ramifications. When the aorta has thus

pushed its extremity against the living surface of the mother, having risen upwards on the growing allantois, it has succeeded in establishing the utero-fœtal union, and this is the only point at which that union exists; everywhere else the womb is protected against direct contact by the interposed membranes, as before observed. It might, without a violent stretch of the imagination, be conceived, that, in this case, the heart of the fœtus has projected its vessels to a great distance and expanded them upon the vital surface of the mother, in order to obtain on that living surface certain parts of the oxygenated blood of the parent; and we can discover an analogy in the case, to what happens in the brain, which, in order that it may receive the impressions of light, projects from its substance the optic nerves, extends them beyond the walls of the cranium, and expands them as retina on the choroid coat, in order that a larger surface may be exposed to the radiation. Or again, just in the same design, the trunk of the pulmonary artery divides itself into innumerable arteries, arterioles, and capillaries, in order thereby to expose a given quantity of blood on a vast superficies, to the action of the oxygen of the atmosphere.

This point of attachment of the embryo to the womb has been lately called its mesenteric attachment, and it must be easy to conceive that, whatever may have power to destroy that mesenteric union, has equal power to arrest the progress of the fœtal life; for if that attachment be partially destroyed, the fœtus will slowly or suddenly perish; or possibly recover, if the injury be not too extensive.

For the most part, the union betwixt the placenta and the womb is very slight; it may be overcome by a blow on the woman's abdomen, acting directly on the place of union. Contractions of the womb, affecting that part of the superficies of the organ on which the afterbirth sits, may detach it. Sudden and violent augmentations of the momentum of the blood's motion in the maternal vessels are sometimes sufficient to break the union; and this happens in consequence of the impulse causing some drops to escape from the womb, and lodging betwixt it and the placenta—thus peeling or dissecting it off, little by little, until a sufficient superficies is removed to destroy the life of the embryo.

Sudden and violent muscular motions of the mother, as in recovering from falls, in stooping, in lifting heavy weights, in ascending stairs, in running, dancing, leaping, &c.; in riding over rough roads in a carriage, or riding on horseback; all these are sufficient, on certain occasions, to break the connection of the afterbirth with the womb.

Emetics—by the relaxing influence of nausea, followed by the intense

efforts of the muscles in vomiting—also serve to detach the placenta in some individuals.

The violent and drastic operation of cathartic drugs, as aloetics, senna, &c., by the great tenesmic action they introduce, and by the affluxion and heat which they determine to the pelvic organs, are also sufficient causes of abortion.

The action of blisters, and the internal use of cantharides and certain essential oils, may also, by the irritation of the neck of the bladder, involve the adjacent and connected womb in great irritation, and so serve as causes of abortion.

Ergot is doubtless sometimes employed for the purpose of procuring criminal abortion. I am aware, however, of only one case in which it was used for that object. A woman, a widow, about forty years of age, in full, vigorous health, after an illicit intercourse, found herself pregnant. She had a large family of children, and fearing the consequences of her fault, procured from an apothecary, a portion of ergot, which she took with a view to cause the expulsion of the ovum, at about the fourth month. The ergot made her very sick, and as the vomiting alarmed her for her safety, she sent for me in great fear of the consequences, and confided to me her painful secret. I warned her against the enormity of her crime, and seeing that the attempt to excite the womb's action was happily a failure, advised her to leave town for some months, which she did, in order to be confined at Boston. I have mentioned this case, the only one within my personal knowledge, of the use of ergot in a healthful gestation, for the purpose of exciting the uterine contractions. In this case it signally failed; and I am strongly inclined to believe that, although the power of ergot to excite the muscular action of the womb *in labor* is undeniable, it is not certain that it can excite those motions *ab origine*. It very certainly often does fail to set the womb in motion when given to facilitate miscarriages already in progress, but going on too slowly. Dr. Robert Lee's *Clinical Midwifery*, at page 82, contains a very interesting case of attempt to bring on premature labor by the use of ergot—which signally failed of the expected success.

If we consider for a moment the extreme tenuity of the membranes and vessels of the early embryo, we ought rather to be surprised at the power it has to live on to term, than at the occasional cessation of its existence in the early stages of its intra-uterine life. The least obstruction of the delicate umbilical vessels, or of its omphalo-mesenteric apparatus, would destroy it. The least rupture, perhaps, of the hyaloid membranes of its reticulated magma would cause its death—and an error loci of its blood-globules, as they proceed to mark out the

tracks of its bloodvessels, might cause an inevitable cessation of its existence.

Pray observe that the early ovum resides in the fundus and corpus and not in the cylindrical cervix uteri; the cervix being the retainer while the fundus and corpus are the containers of the ovum. An unceasing conflict of expulsive and retentive antagonism is waged between the cervix and the fundus from the beginning to the end of every pregnancy. The fundus always endeavors to deploy the cylinder of the neck into a cone, and then to convert it into a large cylinder, through the cavity of which it may expel or thrust forth the embryo. If a woman have a feeble cervix it will yield and will dilate and allow the fruit to fall; if she have, on the other hand, a fundus that is too strong and too resisting, but a natural strength of the cervix, the latter must yield and lose the fruit of the conception. So that either of these two causes may lead to the abortion. Hence, you may not infer that those women who always miscarry always do so because they have a feeble cervix uteri. See to it, and learn to ascertain your duty of strengthening by curing the neck, or else of reducing the abnormal energy of the other segments of the womb.

It is probable that a major part of the abortions met with in practice are the results of a failure in the vital forces and arrangements of the embryo, and not of a faulty action of the womb itself, or some accident or emotion of the woman; some imprudent step, gesture, or posture.

If the embryo dies in utero, the ovum commonly soon ceases to possess any vital property, and then the womb, by some sort of organic perception; by ceasing to grow or expand; by the irritation of a present foreign body, comes to a full stop or arrest of those living and progressive developments under which it has been acting since the commencement of the gestation—a new principle of activity is awakened in its organism; its muscular fibres begin to constringe themselves; the superficial content of the uterine cavity grows less and less under these contractions, and the embryo and the ovum are thrust through its orifice into the vagina, from which they are soon pressed forth or fall away by their own weight.

Although the death of the embryo involves a certain cessation of the projection of its blood to the vessels of the placenta, and notwithstanding this cessation is generally very soon followed by the expulsive action of the womb, it is not always soon followed by the latter effect. A lady conceived, about the 20th of April, 1842, and consequently made arrangements for her accouchement for the 20th of January, 1843. The pregnancy went on well until about the 5th or 10th of August, when she had a very slight show, and there was a complete arrest of the

usual developments. She was at various times affected with slight appearances of her catamenia, as she supposed, but without any flooding, until the 3d of January, 1343, when she sent for me, saying she had suffered extreme pain, like the pains of labor, for some hours, but was now easy, though she thought something was escaping from the vagina. Upon examining the patient, I detected the ovum, partly in the vagina and partly embraced within the cervix, and removed it with the index finger; and, upon carefully examining it, found that it was the unbroken ovum of a fœtus of three and a half months, apparently. The ovum itself contained a sort of granular brown and thick fluid, while the fœtus, also of a mummy color, retained its lineaments, although considerably macerated by its long residence in the waters. The placental portion of the ovum was red and fresh-looking, and had evidently retained more or less vitality up to the period of its separation from the womb.

I think I can safely assert that, in the course of my practice, I have met with near twenty cases of the protracted residence of the ovum in the womb, after the death of the embryo. I have had under my care several cases where it has certainly remained five months after its death. Nor, indeed, is there any reason for surprise at this, if we reflect that numerous examples have been met with, in which, in twin pregnancies, one of the fœtuses has perished at the third or fourth month, and yet remained in utero until the other twin had gone to the full term of utero-gestation, become fully developed, and been safely delivered at the same time with the abortive twin.

A miscarriage is not always painful. Women sometimes exclude the ovum, when at an early stage, by such gentle and easy contractions, and by so ready a dilatation of the os uteri, that they are hardly sensible even of a degree of uneasiness. In general, however, it happens that, when the womb does begin to contract for the expulsion of its contents, it does so with very great vigor, and the contractions are both long and frequently repeated. If they are violent, they press the ruined ovum into the narrow canal of the cervix uteri, which, by the resistance of its sphinctorian fibres, opposes with great energy the distending or dilating effort of the advancing ovum. This resistance causes pain, often of the most acute kind, so that women, now and then, have informed me that they have suffered much more distressing pangs in this way than in their labors at full term. This is not surprising, if we reflect upon the length of the canal of the cervix, and the thickness and density of its walls thus hastily pressed open, by a sort of direct violence or force.

Let it be again observed here, that, in the early stages of pregnancy,

the ovum inhabits the body and fundus of the womb, and that it has not hitherto appropriated any part of the structure of the cervix as its cavity or habitation. Hence it happens, that, though the body and fundus may have pressed and pushed the ovum quite out of their cavity, which is now nearly empty and unoccupied, they are unable to force it quite out of the canal or cavity of the cervix. This tubular or acutely conical canal now grasps it firmly, and will not let it go, keeping up a constant irritation and disturbance of the organ, that maintains the hemorrhagic nisus, if there be any, or excites and produces it, if it do not already exist. The inference from this fact is that, in such cases, if the physician remove the half-expelled ovum, or after-birth, from the grasp or gripe of the cervix and os uteri, he will thereby remove the cause of distension, and, by allowing the womb to contract perfectly, bring about an instant cessation of the hemorrhage. It will, therefore, be his duty, in all cases depending on such cause, to ascertain its existence and operation, and take the proper measures for its obviation.

I have observed numerous cases, in which the ovum has been thus detained many hours, and even many days, keeping up, as before remarked, a constant irritation, with hemorrhage sometimes of frightful violence, that always ceased as soon as I could take away the mass in question.

The great and very important principle that, in order to the suppression of uterine hemorrhage connected with gestation, it is necessary to empty the womb, ought to be more universally known or admitted than it seems to be even among certain medical persons of considerable experience.

When called to a married woman who is flooding, the first question should be directed to the ascertaining if she be pregnant or not. If she say she is not *enceinte*, and yet is of that age, and in those circumstances that expose her to a liability to be pregnant, I am reluctant to act upon her responsibility. If she say, "I was pregnant, but I miscarried yesterday, or last week, or a month ago, and yet I am suffering hemorrhage at the present moment," I should always suppose her opinion, or that of any other person, not worth taking, until I should have learned for myself, by my own sense of touch, that she was not misinformed—for what should cause a woman of the childbearing age, and in good health—what, I ask, should cause her to flood? If permitted to make the examination by touching, I could satisfy my own judgment on the question. Such is the course I take, always, where the exigency of the symptoms of hemorrhage calls for it—and I must say that, in the larger proportion of cases, when there has been pain, and where hemorrhage has continued after the pain is gone, I have, upon touching, found

the ovum grasped in the cervix, and upon dislodging it thence have found the hemorrhage to cease at once. It appears to me to be inexcusable to permit a woman to lose pint after pint of her blood, rather than take this disagreeable mode of learning what our duty in the case may be. Such losses of blood are followed, in certain cases, by long years of broken health, and by weakness which is never fully recovered from.

It is better, therefore, to determine with accuracy what the indication of treatment is, and having got that, the path of duty lies plain before you. I have the less reluctance to speak to Students in this manner, because I have so many times been called upon in consultation where the patient had already lost a large quantity of blood, the medical attendant being persuaded either that there had been no pregnancy, or that the pregnancy had already terminated some time before.

Within three days, a friend has sent me the uterus of a patient brought into one of the public institutions dying—who was said to have miscarried several days before. This uterus, which was in a state of sphacelation, contained the placenta of a fœtus of four months. It was partially detached from the placental superficies—a separation that had occasioned a hemorrhage of forty-eight hours' duration. From the situation and size of it, I suppose it could have been removed with a placenta hook or a small *pince à faux-gèrme*, without risk or difficulty. It is evident that the person who had the case under treatment was not aware that the placenta was not delivered.

True it is, that, in some cases of abortion, it is not within the competency of the medical attendant to extract the placenta. The long cylindrical canal of the cervix closes soon after the expulsion of the waters and embryo; the womb sometimes ceases to contract, and the finger cannot gain access to the uterine cavity; and even if it can, it is not always possible to remove the placenta, which occasionally adheres with abnormal pertinacity. Attempts with a proper small forceps, with the placenta hook, by means of ergotism and other means, should always be carried as far as a sound discretion will permit; but all rude and forcible attempts to procure extraction should be regarded as equally dangerous as the continued stay of the after-birth in the cavity. I have many times preferred to leave the remains of the abortive ovum to macerate and putrefy in utero, to the dangerous risk of provoking inflammation of the organ by forcibly tearing it from the womb. In my own practice, I had never occasion to regret my decision. Yet I saw, in consultation, a lady, some two years ago, in whom the placenta of a four months' fœtus was never extracted, and who lost her life by metritis some days afterwards. The case of the uterus, recently presented

to me, and of which I just now spoke, is another one which ought to induce any medical man to pause and consider carefully the indications of duty, before he should either decide to act, or refrain from interfering.

To a young practitioner, or to the general practitioner unaccustomed to the treatment of the disorders of pregnancy, a call to a case of abortion is a source of discomfort, embarrassment, and even of dread. I doubt not, my young friends, that in the commencement of your career you will often have occasion to experience the pangs of doubt, and the consciousness of incapacity, which the want of a familiarity with such scenes will inevitably produce. But, as I often told you in the lectures, your principles of medicine should guide you and protect you against any uncertainty, disquietude, or alarm.

In the present case, the principle chiefly concerned is that of the contractility of the womb. You, I presume, understand the principle well, and you will confidently depend upon its power to save your patient in the wildest and most frightful effusion of blood, because you will always know how to incite and invigorate the uterine innervation, where it may be possible to do so, and so stay the effusion of the blood.

But, wherever the means within your reach prove incompetent to rouse the languid, exhausted or expiring forces of the organ, I cannot well conceive how it should be that the youngest and most inexperienced member of the Class could suffer himself to be at fault for a moment in deciding upon the points of his duty. That duty will depend, in the first instance, upon the actual state of the constitution of the patient, and upon the views he may take as to the propriety of preserving, or the necessity there may be of disregarding or sacrificing the ovum. If the woman be not evidently exhausted from the losses she has already sustained, it is easy to perceive that little danger will attend some additional loss. Or, if she be already much reduced in strength—the condition to be discovered by inspection of her countenance; by inquiries as to the force of her muscular apparatus; the color of the surface as to paleness or the reverse; the circulation, as indicated by the arterial pulse; the respiration, from observing its frequency and its degree; the intellect, to be inquired into by eliciting from her some intellectual expression—he will at once resolve to interfere for the immediate rescue of the female, or he will determine to let it go on.

I can see that a medical man, under such circumstances, has no right, in the exercise of his professional avocations, to do any act or thing which will insure the destruction of the young embryo, unless the necessity of the case be so apparent and so urgent as to exclude entirely all

idea of exposing his patient to further risks with a view merely to the conservation of the delicate creature within. For example, if you are called to a patient who is flooding in the third month of utero-gestation, you would, perhaps, immediately make the reflection that you have at hand a means of suppressing the hemorrhage as sure as the surgeon's ligature, or Petit's tourniquet—I mean the tampon or plug—which, filling the vagina, is capable of preventing the further escape of blood, by detaining between the tampon and the cervix uteri a quantity sufficient to form a coagulum extending through the canal of the cervix uteri into its cavity, and presenting a complete bar to the further issue of fluid from the bleeding vessels of the womb. But, if a woman be flooding, not dangerously; and if there be any hope that the flow of blood may be restrained by hæmastatic remedies, or other therapeutic procedures, and so save the embryo, it will be unallowable practice in you to employ the tampon; since its use would inevitably destroy the mesenteric attachment of the ovum to so great an extent, as to insure its final destruction.

The force with which the blood, under a strong hemorrhagic nisus, is expelled from the interior of the bleeding vessels, is a force far superior to that by which the ovum is attached to the womb; and the presence of a tampon, which prevents the escape of the outflowing blood, cannot restrain the effusion until the ovum, and often the whole placenta, become detached from the gestative wall, and entirely encompassed by a coagulum, from which it is possible, after the expulsion of the object, to pick out the unbroken membranes, as you would take the yolk of an egg from the midst of the white.

Here then, gentlemen, you perceive a great point of duty to be determined upon by you in settling your indications of treatment. I repeat, that you have no right to destroy the pregnancy, unless the woman's condition clearly points out the necessity for so doing; and I freely declare my opinion, that the tampon in the flooding of abortion must as effectually destroy the child, as a rupture of the membranes or the plunge of a stilette into its body.

I am anxious to put you upon your guard upon this point; I trust you will always act up to the principle that you must not do evil that good may come. Wherever a clear indication for the sacrifice of the tender embryo exists, no evil is done in procuring the greater good of the mother; on the contrary, the act by which it is destroyed is an act in morals as purely good as the saving of a man's life. The lesser, in morals, must yield to the greater; the lesser is always included in the greater.

It is out of my power, gentlemen, to say how far you shall allow the

hemorrhage to proceed, before interfering by means of the tampon. This is a point which is to be determined in every special case; it cannot be determined from any book written by any man. It cannot be determined, because no man can say to what extent a uterine hemorrhage may proceed without endangering the life of the woman.

As a general rule, if a woman not advanced beyond the fourth month loses a teaspoonful of blood, it is probable that she will miscarry; and yet, not unfrequently, exceptions are met with of persons who, previous to the fourth month, lose many ounces, so much in fact as to produce paleness and lipothymia; and yet, after the cessation of the hemorrhage, the pregnancy goes on as pleasantly and as regularly as if no such accident had happened.

It is not your province to decide from mere probabilities. You cannot know in any case of early abortion whether the embryo be living or dead at the time of your arrival. You cannot determine this point, for the double sound of the fœtal heart, your only ground as to a knowledge of its state, cannot be heard so early. You need feel no embarrassment on account of this uncertainty, since the principle which should guide you must be this, namely, that not knowing it to be deprived of life, you are always to consider it as still existing, and as claiming your conservative protection, as long as the mother's interest and safety permit its claims to be heard.

An attack of uterine hemorrhage in the early stages of pregnancy invariably excites considerable trepidation and alarm, and the physician is sent for with the most urgent appeals for speedy attendance. Upon arriving at the scene of such occasions, the first object is to get rid of all the moral excitement of the patient, which is effected by your calm, dispassionate, intelligent conduct—the nervous system becoming free to play its part among the organs when the excitement and disturbance which have become developed in it, by powerful moral causes, shall have been allayed. In general, it is not difficult to convince the patient, however ill, that the physician has power over the case to control it—to handle it at will.

I have sometimes said to persons whom I have found frightened half to death, "Are you frightened?" and when the reply has been in the affirmative, I have continued: "Well, then, look in my face—look right into my two eyes. Do you see me? and do you think that if I were presiding over a case in which a life so important as yours was in danger, I should be so utterly unconcerned as you see me? Or, will you not take my assurance that it is within the power of any intelligent physician to put a definite stop to this loss as soon as it shall, in his judgment, become expedient to do so? Or, will you believe me a person

ignorant of my art, and on that account distrust me? Be calm. Be tranquil. Be obedient. Be still, and I shall take good care of you. Do you understand me?" "Yes, sir." "Do you believe me?" "I do indeed!"

Having disposed of all the alarm and trepidation, the next thing to be done is to determine, if possible, the amount of blood that has been lost; to which end you should ask the nurse or attendant for an opportunity to examine the napkins, sheets, &c., that may have been soiled; besides ascertaining by inquiry the amount of what has been thrown away. Don't take anybody's word on these occasions, if it be in your power to depend upon your own observation. I am very sure that I allowed a poor woman, many years ago, to lose her life, because I neglected this rule; having trusted to the report of an ignorant nurse—and there are few nurses that are not ignorant on these subjects.

If the flooding is still in progress, ascertain its rate. Touch, in order to know if the vagina be full of clot or no. Take a clean napkin, and having crushed it in your hand, in order to take out the hardening, let it be applied to the external genitalia; taking good care not to allow it to be soaked in a pool of blood which has, perhaps, been already effused. Leaving it some ten minutes, more or less, in situ, cause it again to be presented to you, so that you may judge of the amount of the stain. Should the nurse have dipped it in a pool of blood, she will present it to you thoroughly soaked, though the woman have in the mean time not lost a drop, and thus you may form a determination fatal to the life of the young embryo. I beg you, then, not to neglect this not trifling caution.

See that the woman be properly placed. If the day is warm, and the bed situated quite out of the draught of the windows, or in the angle of the two walls, let it be conveyed into the centre of the apartment, where it is accessible on all sides, and where the woman will respire a purer air. I have opened all the windows and allowed the snow and sleet of a violent winter tempest to pass freely into the apartment of a woman flooding in abortion—so as to be obliged to shake the snow off her bedclothes. She must have air. If she be weak, don't allow her head and shoulders to rest upon pillows; if she be very weak, don't let her have any pillows at all under her shoulders, and if her strength be exceedingly reduced, take the pillows from under her head, even if she should lie upon an absolute horizontal plane. A hemorrhage that would go on *ad deliquium* will often cease by taking all the pillows away, for the momentum of the blood in the vessels from which it escapes is highly favored by its gravitating power. Sometimes, in excessively dangerous debility from hemorrhage, you should not only take

away the pillows, allowing the head to lie upon the mattress, but the feet of the bedstead should be elevated four or five inches, by placing some books or blocks under the lower bedposts. You have thus all the advantages derivable from position, a term in surgery of which you doubtless comprehend the meaning and import.

Muscular contraction is promoted by the influence of cold; and the womb, when contracted by the tonic action of its muscular fibres, will not bleed so freely as if it remain in a relaxed condition. Apply cold, then, to the hypogastric region, to the groins, to the external genitalia, and to the inner surfaces of the thighs. Cold spring or well water, or iced water, should be mixed with a portion of vinegar, which is always at hand in every house; or with some spirituous liquor. A large napkin, carefully and strongly wrung out of the cold liquid, should be spread over the parts just mentioned; and above it a piece of oiled silk, or a square of flannel, to prevent it from wetting the bedclothes or night dress of the patient. It should be often changed.

She will probably be very thirsty if she have lost a considerable quantity of blood, and should, therefore, be provided with very cold lemonade; or she should take from ten to fifteen drops of Elixir of Vitriol, in a wineglassful of water or a wineglassful of filtered infusion of roses, made as cold as possible; the dose to be repeated every hour, or even every half hour, *pro re natâ*, as long as the indication for its employment continues.

Or, we should take some of the alum-and-nutmeg powder which I mentioned in a former letter; say five grains of alum with three grains of nutmeg, mixed in honey, or syrup, or any convenient vehicle; the dose to be repeated every hour, or half hour, according to circumstances. Or, you may resort to the hæmostatic power of opium, which, by its influence over the nervous system, whether in the brain or the distal fibril, may have power to quell the nisus hæmorrhagicus.

Or, you may give your patient two, three, or even five grains of acetate of lead, mixed with one-fourth, one-half, or even a whole grain of opium, the dose to be repeated from time to time, perhaps not oftener than once in two hours. Beware, however, of the sugar of lead; there is no little danger of determining by its use the most obstinate vomiting, or of establishing the whole series of morbid actions denominated colica pictonum.

A physician is scarcely pardonable, who, in a considerable case of uterine hemorrhage, fails to explore the condition of the os and cervix uteri. Such an exploration reveals to him the fact of the dilatation, or non-dilatation, or the disposition to dilatation of the part. If the os uteri be dilated already, the question as to the ovum is already decided

—it must be lost, and it is no longer deserving of our respect. Such a dilatation now indicates the use of the tampon, if anything be indicated, beyond mere hygienic interposition. It is far preferable to any therapia, because it does not and cannot do any harm; whereas all the other procedures which I have above indicated are to a certain extent harmful, saving only the position, and the directions about drinks.

More than half of the physicians of the United States, probably, have the most incorrect notions of the uses of the tampon. I have seen those among them whom I esteemed excellent accoucheurs, make use of a bit of sponge no bigger than your thumb, and which absolutely floated free in the midst of a vagina dilated to the size of an immense fist; for in all these hemorrhages, although the sphincter vaginæ may close the ostium, the inner or uterine portion of the tube is found to be extraordinarily relaxed, and its walls vastly extended by the pressure and distension of the coagula, which they have at some stage contained.

Please, gentlemen, to look at the letter, number XXXIII., in which I have already given my opinion of the choice of the material and the administration of this useful chirurgical means.

There is one point which is deserving of your careful remembrance, and that is, the importance, nay the absolute necessity of great care to obtain all the proofs that a miscarriage has taken place.

A woman does not always recover as soon as the ovum is discharged; on the contrary, the irritation of her constitution occasionally becomes still greater after the womb has become emptied, and if you shouldn't know that it has become emptied, you would be entirely at a loss for the means of diagnosis. Don't you perceive that, if the diagnosis should be that the womb still contains the ovum, or a rest of the ovum, your treatment will be founded upon that very presence? Whereas, if the diagnosis should prove to be that of an emptied womb, your treatment would necessarily take some other form? Some of the most dreadful miscarriages that I have ever met with have been those of very early ova. But, if the ovum should not be larger than a black walnut, and be contained in the cavity of a uterus with an undilated cervix, it is inaccessible to any knowledge except what is derivable from rational inference. As long as it remains there, it is fair to regard it as the cause of the mischief, but it cannot be so deemed when it has come away.

Now, if your nurse or the patient herself, upon discovering the discharged ovum, should throw it away, how are you to tell whether it has been thrown away or not, since, out of one thousand women, you will

not find two and a half that could tell the difference between an early ovum and a clot of blood.

I have had clots of blood sent to me from very good doctors, for dissection and for preparation for my museum, under the supposition that they were the organized products of a regular fecundation. I have had a patient who had been be-deviled for three months by an eminent practitioner, under the supposition that she was laboring under menorrhagia, whereas nothing was the matter with her, but a dead and undischarged ovum.

I have told you before, and I tell you now again, that the product of conception may carry on its development for two, three, or four months and then die and remain in the womb without exciting the least apparent tendency to contraction, for three, four, yes even for six months. Of course, you will not be surprised to find that where the muscular irritability of the womb is not excited by its presence there may be, nevertheless, irritation produced, and the most probable form that the irritation will assume will be that of the nisus menorrhagicus.

Let me advise you again, never to take a woman's report as to the organic character of the substances discharged in an abortion or miscarriage, but let it be an invariable rule in your art to institute careful inquiries as soon as you take charge of the case, as to all such appearances as may have been antecedently noticed, and give the most particular and even solemn cautions, as to not removing or throwing away any such as may afterwards appear during your administration of the case.

A man who has charge of a case of abortion, in which he cannot decide whether the abortion has taken place or not, is at sea without oars or sails—he does not know what to do; in fact, he is like a bull in a china shop. I admit that he might back out without breaking the crockery, but he can scarcely turn without doing mischief.

You see I speak feelingly upon this point; and I do speak feelingly, for I bear in my memory the recollection of a case I attended here a few years since, in which I exhausted all the means of diagnosis without being able to come to a conclusion, while the patient was visibly drawing nearer and nearer to the brink of the precipice. She did not go over, gentlemen, but she recovered her health, and I have never yet been able to find out what became of the ovum, or why she continued after its discharge—if it was discharged—to have the same symptoms as those have in whom it has not been discharged.

You should, therefore, claim the privilege, which is justly yours, of inspecting with your own eyes all the uterine products, whether liquids,

coagula, shreds, or solid substances. It is very clear, that when you have got a whole ovum unruptured in your hand, it is out of the woman's womb; and no doubt can then rest on your mind. If she continues sick after this, the diagnosis has lost all its difficulty. But, with a perfect diagnosis, what can you want more!

If the process of throwing off the ovum has gone to a certain extent, you will find it in the cervix, and perhaps with a large portion of it protruding below the os uteri, but still firmly held in the grasp of the tube, and keeping on foot those irritations of the whole nervous constitution, that serve to sustain the vigor of the hemorrhagic effort. If you make such an examination and find the ovum protruding, you should place the patient with her shoulders upon the same plane with her hips. Direct the nurse so to arrange her dress that there may be but one, and that the thinnest, of her garments, interposed between your hand and her hypogastrium. Let her be upon the right side of the bed, near the edge, lying on the back. Then, standing on her right side, press the palm of your left hand upon the hypogastric region, so as to push the integuments gradually and strongly down upon the plane of the superior strait, which will bring the os uteri as near as may be to the ostium vaginæ. And now let her draw up both her feet close to the body. If, while so situated, you carry the index finger of the right hand to the os uteri, it will not recede from the pressure, being maintained in situ by the pressure of your left hand upon the hypogastrium. The index can now be gently insinuated betwixt the protruding ovum and the wall of the canal of the cervix, and carried high enough in some cases completely to command the product; for if the finger be a little flexed at its last phalanx, the ovum may be caught upon it, as upon a hook, and turned out of its bed. If, upon examining, there be reason to suppose that nothing has been left in the womb, you may tell your patient it is probable that she will have no further trouble; or you may go so far as to say that she is well already. I said so to a lady this morning, April 18, 1854.

Where you cannot command it with the finger, you may sometimes succeed in extracting the ovum, or its rest, by means of Dr. Dewees's placenta-hook, or by Mad. Boivin's *pince à faux-germe*, or by my friend Dr. Henry Bond's placenta forceps, which you can get here, as manufactured by Messrs. Rorer, Schively, and other surgery Cutlers. I advise you, though, to be well upon your guard against the use of instruments in these cases. If you get hold of such a body with an instrument, you will be tempted not to let it go again; and if you pull too hard, you do so at the expense of uterine tissues that are already in trouble, and will not kindly submit to any rude handling. I have

seen a patient severely hurt by the violent extractive force that was applied by means of a wretched placental forceps for the extraction of a dead ovum.

It is even better to wait and trust to the maceration, and the discharge in solution or fragments, of the ovum, than to wound or tear the organs. I have so waited in cases where I had failed in any reasonable extractive effort; and have found the product to be wholly discharged as it macerated, without any other inconvenience than that occasioned by the tedious confinement, and the offensiveness of the odor. I have just concluded such a case to-day, October 23, 1850. I have no idea that the patient is exposed to considerable hazard by this expectant mode of treatment, which leaves you with the daily, nay, hourly hope that the uterus will at last wake up to a sense of its condition, and free itself from its burden by the exercise of its expulsive power. At any rate, an examination, repeated from time to time, will make you acquainted with any progress that may be had in the expulsive action of the womb; so that you may have the satisfaction at last of taking it from the cervix, conscious that you are doing no injury.

I had a patient who, in two successive pregnancies, allowed the ovum to die between the third and fourth month. In one of them, it lingered for several months within the cavity of the womb before the organ became irritated to its expulsion. In the other, I was employed in the treatment, and having satisfied myself that there was a dead ovum in the uterus—notwithstanding the woman had neither hemorrhage, nor pain, nor any discharge, indeed—I determined to try the power of ergot in the case. I gave her a drachm of the powder mixed in six fluidounces of cinnamon water, with directions to take a tablespoonful three times a day. Before she had finished the quantity, the uterine contractions were established, and the ovum expelled without accident, or any consequent disorder.

Ergot will sometimes excite the contractions of the uterus in the early stages of gestation, but it is often found utterly to fail in the exertion of its peculiar therapeutic powers. But, as no inconvenience is to be apprehended to the health from its administration, you should consider yourselves at liberty to employ it in fulfilment of a clear indication. The wine of secale given in teaspoonful doses and repeated from time to time, according to the exigency of the circumstances, will be found a convenient and often an effective administration; and I presume you would not, in any case of serious hemorrhage or protracted retention of the product, fail to put into play its extraordinary power over the muscular organ of the womb.

A woman who has miscarried, if no accident follow the event, will

be likely to get rid of her lochial discharge in the course of a few days. It often disappears on the third day, but sometimes continues to the tenth, or twentieth, or even longer.

When the woman seems recovered, she too soon thinks she ought to have the privilege to get up and take charge of her affairs, or give herself up to her pleasures; but she will be highly imprudent to do so; nor will you fulfil your duty as medical counsel, if you advise or allow her thus to expose her health. She should be kept very quiet for many days, during the greater portion of which she should be in a recumbent posture, either in bed, or on the sofa or couch; nor should she be permitted to go about until all signs of miscarriage have entirely disappeared.

A miscarriage within the first four months is not followed by secretion of milk from the mammary gland; but, should it go to five months and a half, before she loses the ovum, the woman is very likely to have an abundant secretion of milk. I attended a poor woman some years ago in Tenth Street, who miscarried at five months and a half, soon after which she became a wet nurse, at my request; having a supply of milk sufficient to support a strong healthy child.

A woman who has suffered one abortion is probably more liable to a similar accident in subsequent pregnancies than she who has not suffered in this way.

There are many persons who suffer repeated miscarriages, and whose health is injured by the irritation and loss of blood accompanying those accidents; moreover, the disappointment experienced in regard to the hopes of offspring, occasions great disquietude; so that it is extremely desirable to discover some method of obviating such an evil tendency. I have no doubt, as I before said, that in these cases the mensual effort is often at the foundation of such distressing occurrences; for women are more apt to miscarry at stated periods than at irregular times. Many of the early embryos that I have met with have been so fresh and so firm in their texture, that I could not but suppose them cast off while still endowed with vital properties. Under such circumstances, I could not but suppose that the accident of the casting off of the uterine product was the result of a status of the womb itself, and not of the ovum.

In such a case, I suppose that the ovary might have discharged a mature ovulum, notwithstanding the pregnancy, and that the uterus, obedient as usual to the provocative of sanguine affluxion, became, as usual, mensually engorged. Such engorgement tends to result in the effusion of mensual blood at the expense of the attachments of the embryo, which begins immediately to be cast off, and thus comes into my hand, whole, firm, and recent, as above mentioned.

It is true that many causes of abortion besides this mensual cause do exist—a blow, a violent succussion or shock; an irritation of the womb consensual with intestinal irritation; some deep emotion of soul, modifying the relation of the innervative forces of the whole constitution, followed by sudden reaction in the force of the arterial injection, may well determine an instant hyperæmia of the uterus, to be relieved only by an effusion of blood from its internal wall, at the expense of the mesenteric attachments of the embryo that are torn asunder by the gush.

I had some time since a very perfect specimen of an ovum of two months and a half, which came off enveloped in the decidua. Having opened it, and placed the little embryo on the field under a Wollaston doublet, in order to inquire into its condition, I found that it had suffered from an apoplexy of its cord, for one of the omphalo-mesenteric arteries had given way and filled the tissue with extravasated blood. Probably myriads of young embryos thus perish from the delicacy of their organism and the feebleness of their vital forces. For, notwithstanding they are so carefully and perfectly protected by the admirable nidus in which they reside, which nidus itself is supported as it were upon the most elastic springs, well devised to save it from shocks and violent succussions, they must be deemed liable to the hazard of multitudinous derangements of their circulation and innervation, calculated to lead to their destruction.

There are also many women to be met with who cannot carry the gestation out beyond a certain time, not absolutely fixed, but yet far short of full term. Their children always die; and they know that the child is dead, in the first place, from the absence of all spontaneous motion, and from shrinking of the before well-developed breast, and secondly, from a certain sense of heaviness, or sluggishness, or strange ponderosity within. The womb, moreover, seems to fall from right to left, or from left to right, as the woman happens to turn from either of these positions. I have at this moment a woman under my care at the Pennsylvania Hospital, who has lost many children at about the sixth month. These children were always born dead, putrid, having remained from four to six weeks in the womb after the cessation of their existence. She applied to me for admission, informing me that the child was dead as usual—an opinion in which I concurred after careful auscultation, and which was confirmed by the expulsion of the child, after it had remained a month dead in the womb.

If you ask me, my young friends, why it is that these women lose their children in utero so repeatedly, I feel that I shall be compelled to say that I cannot give you any explanation of this strange occurrence.

They do not, so far as I know, appear to suffer from rigidity of the uterine texture, contravening its natural expansibility under the growing force of the ovum; nor have I discovered in them any signs of general or topical ill health, save the one in question, if indeed that be one. It is most likely, I think, that the fault exists in the ovum itself, for I think it is not unphilosophical to suppose that a woman may be possessed of all the signs of competent health in her own person, whereas the ova which she produces may be weak and unendowed with the usual amount of vital force. But it is vain to form or utter hypotheses; it is better to say, on such occasions, we do not know, we do not understand.

Sometimes, we may observe that the fœtus had developed too small a placenta. The placenta of a child at term ought to be as large as a dinner-plate. If it be no bigger than the mouth of a teacup, how could such a placenta serve for the development of a well-grown fœtus? You will often be able to explain that the child perished because its afterbirth was too small to support it. I had such a case at the seventh month, on the 21st of October, 1850.

A lady under my care gave birth to a son at full term; after which, she was sixteen times pregnant in vain; sometimes going to the seventh month and giving birth to the child dead, putrid; and sometimes going to the fifth, fourth, or third, and always suffering so great an amount of constitutional disturbance during pregnancy, and also sustaining so great a loss of blood during the abortion, as to leave her at the last in a state of wretched health, consisting mainly in disorders arising from repeated excessive anæmia from hemorrhage.

When, for the first time, she came under my care, after the sixteenth pregnancy, I gave her directions which she carefully followed, and carried the child a little beyond the eighth month, when it was safely born. Another pregnancy, within two years, was followed by the birth of another son. When this child was between two and three years old, she died instantly of apoplexy while seated at her dinner table. These abortions had ruined her health.

Doubtless, miscarriages often depend upon irritability of the womb, which refuses to dilate under the pressure of the growing ovum. The Hallerian irritability of the womb, or its muscular contractility, may be so great as to oppose the advance of the ovum in growth. If you had such an ovum growing inside of a metallic sphere, it would necessarily die, because it is indispensable for the embryo not only to live, but to grow, for its life does not consist in living but in augmenting itself. But if the womb won't let it develop itself, will it not die? and hence, don't you perceive that an unyielding, rigid uterus may cause

the woman to miscarry again and again; whereas, if you cure the rigidity and unyieldingness of the womb, you may allow the woman to go out to the full term of utero-gestation?

Suppose you were treating a case, taking such views as these as to the cause of the miscarriage, what could you do to give the uterus a kindlier disposition? Could you not obtund its organic sensibility, and at the same time diminish the vital force of its motor nerves, by bringing it occasionally, at proper intervals, under the sedative influences of opium, and under the relaxing influences of venesection, of the warm bath, and of a cool and light regimen? Would you not give to such a patient at bedtime five-and-forty drops of tincture of opium mixed with a wineglassful of thin boiled starch, to be used as an injection into the bowel? I have done so for a great many people for a great many years past, when I have deemed the cause of the disposition to miscarry a cause connected with the status of the womb itself. I shall probably, as long as I continue to practise, frequently employ this method, as I have every reason to believe that a great many persons have thereby been preserved from miscarrying, who had repeatedly done so under every other mode of treatment.

I have occasionally directed such an administration to be repeated both night and morning; and it is as a sort of general rule with me, in giving such a direction, to counsel the woman to use the anodyne enema daily, until after the quickening of the child takes place. I know of no objection to such a mode of procedure, having never found the least inconvenience to result from it as regards the patient's health. Taking it all in all, as a methodus medendi, it is the most commendable one that I am acquainted with; it was Doctor Physick's, and I learned it from his lips. Dr. Physick had very few methods that were not to be depended upon; and the sanction of his opinion alone would, in my estimation, make it worthy of the highest confidence.

If a woman is likely to miscarry from her menstrual cause, she should be confined to her bed at the menstrual period; a little before, during, and for a few days afterwards. Her bowels should be kept free by gentle aperient medicine, or by enemata, which are least objectionable, as causing less disturbance. She ought to be bled, not too much, but moderately, at the arm, with a view to counteract the monthly engorgement of the uterine and spermatic branches; an intention which will be well sustained by the daily use of the anodyne enema as before mentioned.

A woman might be supposed to miscarry in consequence of debility; in such a case, the use of proper tonics, with nutritious wholesome diet, should be carefully prescribed.

Don't give a pregnant woman purgative medicines, if you can possibly avoid it; since violent action of the bowels, particularly of the lower bowels, is extremely apt to bring the womb into sympathetic disturbance.

Women have the toothache in pregnancy, and will come to you to ask permission to have the tooth taken out. You should always decline to give your consent to this operation; an operation which cannot be performed, I think, without producing a dangerous shock to the nervous system, and violent succussive contractions of the diaphragm and abdominal muscles, quite as apt to disturb the connection of the ovum with the womb as a fall, a blow, riding in a carriage, or any of those causes that physicians are so careful to guard their patients against. If a woman have in her pregnancy an insufferable toothache, you will often cure it by putting a couple of leeches on the gum, opposite the alveole, or by filling the carious cavity, if there be one, with opium; or it will get well after a few days, if she will but have patience with it. I will not deny that a toothache may be so insupportably painful as to warrant the patient in having it extracted, and warrant you in giving your consent thereto; but let me advise you never to do so when you can find any reasonable ground for avoiding it.

Some physicians, when a woman applies for counsel for this habitual abortion, always advise her to go to bed and stay there, under the idea that motion or exertion is apt to provoke the abortion in those who are predisposed to it.

It may be that a woman is safer in her bed or on her couch, than walking about town, or riding in her carriage, or engaging in domestic affairs; and it is palpably true that one who perceives some present threatenings of miscarriage ought to go to bed, and be still. I cannot but think, however, that sending a woman to bed with the purpose to keep her there until the end of her pregnancy, not to be completed until the lapse of six, five, or even four months, is altogether preposterous; since I cannot well conceive that a patient could, for so long a time, be deprived of exercise, of fresh air, and of solar light, without inducing modifications of her nerve force, and of her nutrition, that would be more likely to lead to a miscarriage than the very exercise that is so much dreaded.

I am quite certain I have never been guilty of giving so preposterous an order as this, and that I have known many instances in which the practice has signally failed. I believe, indeed, that it would be better for a woman to miscarry than lie down for six months.

If a man break his thigh bone in the midst of the most consummate health, and if he be taken to his house and laid upon his bed, and

treated with Dessault's apparatus, or any other apparatus for the treatment of fracture of the thigh, then he will not have his bowels moved for the first eight days, unless he take some eccoprotic article. His bowels do not become confined because he has broken his leg, but they are constipated for want of the perpetual succussion which it is designed they should receive from the abdominal muscles which encase them. The man with Dessault's splint is like the woman whom you put to bed for six months; neither of them has the least occasion to use the abdominal muscles in progression, nor in daily exercise; and the alimentary tube, deprived of this usual provocative to its excitement, lies torpid, its muscular fibres scarcely, or with reluctance, performing their office of provoking motion in the canal.

In order to obviate this evil, you are compelled to give drugs; but a pregnant woman ought not to take drugs if there be any means to avoid it; and I think you will find, upon a studied experience, which you will have, that it is best not to place her in a condition where your drugs will become necessary.

To allow her to become costive is to disturb the whole of her splanchnic innervation. She gets a foul breath, a foul tongue, and restless nights; her appetite is mawkish, she loses the bright tint of her skin, and masses of the circulation tend inwards, producing engorgement of the greater trunks; so that, if you succeed in carrying her to the end of her term—an improbable expectation—you will deliver her of a child, after you shall have ruined her health.

I mentioned, at page 548, the case of a lady who had been sixteen times pregnant in vain, but who, after taking my directions, gave birth to two children in succession. I said, there, that when she came under my care, after the sixteenth pregnancy, I gave her directions, which she carefully followed, and carried the child to the eighth month, when it was safely born. She had been repeatedly confined to the sofa, or the couch, during several consecutive months. Several of the gestations were conducted under the counsel of the late Professor Dewees, who had great confidence in protracted repose for the conservation of the gestation; but, as in all the other cases, she had continued to meet with disappointment. When she came under my care, and related the distresses of which she had been the victim, I made known to her my aversion to this treatment by rest. I said to her: "My dear madam, you place me in a very disagreeable predicament by appealing to me on this occasion. In all probability, seeing your present age and your present health, this will be the last of your gestations; you have heretofore been under the care and the counsel of the most distinguished practitioners of my art, in this country and in Europe, and it has, per-

haps, become a principle with you to treat all such cases by profound and protracted rest. If I, who am opposed to such a method, should advise a contrary course, and the case should result in an abortion, as usual, you might hereafter accuse me of great imprudence in departing from a method so recommended, and never becoming pregnant again, charge me with depriving you of the last chance of having offspring. Nevertheless, I shall *guide* you according to my judgment and my conscience. I believe that the best health that you can obtain is the securest health for your pregnancy, and that health can only be had by exercise, *sub dio*, in the open air. Pray, then, take my advice, to walk out, or to ride out, daily; to receive and return visits; to go to the party and the ball, and try to forget that you are pregnant, acting, indeed, as if you were not. Be always, however, a little careful of using violent muscular effort, or awkward positions of the body; and, above all things, do not tumble down stairs. Take an anodyne injection every night before you go to bed, and let it consist of forty-five drops of laudanum, in half a wineglassful of thin clear starch."

She did follow my directions implicitly, saving only the exception that she did tumble down stairs twice, and yet I had the pleasure of delivering her of a child, as mentioned at page 548.

When I was an apprentice to my late master, Dr. Thomas Hanson Marshall Fendal, of Augusta, in the State of Georgia, I was acquainted with the circumstances of a case of abortion under his care. The lady in question, whose name I am bound to withhold, expelled an ovum containing a fœtus of about three months, yet six months afterwards she gave birth to a male child at term; so that it is possible for a woman pregnant with twins, to discharge an entire ovum of one of the twins without destroying the mesenteric attachment of the other, which goes on to the full term.

Such a case is one so rare, that probably if you live a long medical life you will never meet with one like it. It is well, however, to know that such things are in *rerum natura*.

I have seen one case in which a woman giving birth to a child at full term, afterwards discharged a placenta, attached to which was a fœtus of four months and a half, completely mummified and pressed as flat as a bit of deal. Some stupid people, upon such a sight, would lift up their hands, and exclaim "Superfœtation!" Superfœtation has nothing to do with it; it is a case of abortion, with retention of the fœtus four months and a half after its death.

You will find a beautiful drawing representing a precisely similar case, in the tenth plate of the Atlas to Mr. Pouchet's *Théorie Positive de l'Ovulation Spontanée*. The account of the case is related at

page 436 of his text: the child, as in the case which I saw, was compressed, its head being mashed flat by the pressure of the living ovum against the side of the uterus.

I think, gentlemen, that for the present I have nothing further to say upon abortion; but I have now a few remarks to offer you on the subject of moles or false conceptions, which will suffice for the present, to close this subject.

In ancient times, the doctors were accustomed to have very curious notions on the subject of what are called moles; and some of their superstitions about them are very queer and amusing.

There is a vague notion that lurks in the female mind even to the present day, that renders the production of a *mole* a subject of much talk and wonderment. They are called, by most people in this quarter, *false conceptions*, and are rarely met with without giving rise to much examination and cross-questioning, addressed to the medical attendant. They who have had a false conception, or a mole, are anxious to know why and how such a thing happens. Not only have I found the female worried about such an event, but I have also discovered that the husband is not without some uneasiness and self-condemnation. It happens in this way.

When such a woman conceives in the womb, she goes on in her pregnancy for some weeks, or for two months perhaps, perfectly well and naturally—the embryo then perishes, and, floating in the amniotic waters, undergoes a process of maceration and solution; so that it soon disappears completely, leaving a brownish dirty liquor still inclosed within the amnios.

The spongy or tufted chorion, having in the mean time established a mesenteric connection with the uterus, a sort of vitality continues to exist within it, provided the womb does not cast it out by contracting its walls. Under this low rate of life, the mass of the mole slowly increases in size, and becomes more and more solid and heavy. The mass continues to grow more or less rapidly, until the womb, no longer able to tolerate its presence, contracts, and expels it.

Such a mole is but a diseased and altered ovum, and the woman who is distressed with the notion that she has some peculiarity of nature that concerns her, the subject of such a misfortune, ought to be relieved of the false impression, which might render her unhappy.

Sometimes the ovum, instead of being converted into a firm, hard, and fleshy substance, becomes the seat of what is called *hydatids of the womb*. In this case, every part of it is occupied by numerous vesicles of various sizes, from the bigness of a mustard-seed to that of a large Malaga grape. These vesicles are filled with pellucid fluid—and they

continue to be formed and to increase in magnitude until the womb acquires the dimensions of the gravid uterus of the seventh month. Or the womb, irritated by the pressure of such a foreign body, refuses any more to distend, whereupon, contractions setting in, the whole heterologue product comes away, in quantity, sometimes, sufficient to half fill a wash-basin.

It is asserted by some writers, that the grape-*like* vesicles are really independent animals—acephalocysts, endowed with great powers of production; but I am by no means of that opinion. They are, far more probably, derived from the distension of the altered spongioles and cellules of the placenta, which, by some endosmosic act, become filled with water, and thus dissect, so to speak, the whole mass of the mole or altered placenta.

Now and then, you will meet with cases where, the child being even born in good health, the placenta exhibits numerous specimens of these bullæ. If very numerous, they could not fail to destroy the embryo, by destroying more or less completely its branchial organ, the placenta.

A case is not, in general, early suspected of being a false conception, and it is not until it is cast off that the truth is known—still, when the pregnancy proceeds at a more rapid, or at a less rapid rate of development than natural, and when the woman is troubled with the frequent slight markings and discharges of blood per vaginam, she may be held as suspected.

The rapidity with which a bunch of hydatids may grow is very great. I have, for example, now under treatment a young lady, married about a year ago, who became pregnant about the 20th July, 1847. On the 23d October, 1847, she discharged a large quantity, near a pint measure, of hydatids and altered placental structure.

Pending the gestation, she was sick for twelve weeks, during a major part of which time she vomited daily, and many times a day. She became rapidly and excessively emaciated, and had for a long time a pulse above 120 per minute.

The womb was always of a doughy feel, except when condensed by its muscular contraction, which was often the case during the process.

My fears were greatly excited by her condition, until her pains coming on, the whole diseased mass was driven out of the uterine cavity —whereupon she immediately began to recover, and is now, Nov. 6, 1847, in pretty good health, although still weak and pallid.

Previously to the expulsive effort, the fundus uteri had risen nigh to the umbilicus, and yet she was only three months gone, at which period the fundus ought not to have jutted much above the plane of the superior strait.

This ought not to surprise you—when you reflect that her womb expanded at such an unnatural and even fearful rate. It was rather like a process of bursting than deploying the tissues of the uterus. No constitution could patiently tolerate such a bursting process. It must feel the irritation.

If, therefore, you should take charge of a patient, pregnant, sick, suffering occasional attacks of uterine hemorrhage, with great constitutional irritation, evinced by frequency of pulse, emaciation, and other signs of suffering—and if coincidently with such signs there should be a *too* rapid development of the womb—you might very confidently make the diagnosis of hydatids. Because, in true pregnancy, the rate of development is decided by a generic law—peculiar to each genus of animals—or to each species rather. If the rate of growth is non-generic, the product will be non-generic likewise, and leave you clearly at liberty to take measures for the cure.

In such a case, you cannot bring on *premature* labor—but you can bring on labor. There can be no prematureness for a thing that has no generic term of development. You might provoke contractions of the womb by doses of ergot, or if that should fail, by the use of sponge tent carefully placed in the canal of the cervix uteri. A sponge tent could hardly expand in the canal without causing the fundus to enter into active contractions.

There are some women, in whom the womb, during menstruation, becomes filled with a small coagulum. A coagulum of blood as large as a walnut, in the non-gravid uterus, would be subject to a firm pressure; the serum escaping, might leave the more solid parts within the cavity, which might remain therein undisturbed during a whole intermensual period. New coagulations taking place at the return of the menses, the mass becomes increased in size, and at last, exciting contractions, is expelled with the sharpest grinding and dilating pains.

I have seen a lump of fibrine larger than a black walnut, exceedingly solid, and of a whitish-yellow color, produced in this way.

It is not a false conception—but a lump of fibrine out of which all the serum and corpuscles have been squeezed, and which may lie a longer or shorter time in the womb without exciting its expulsive power—and at last come off with very violent grinding pains—so great, indeed, as to make the woman suffer as much as in the most painful miscarriage. I wish you to take notice that I have above stated that in menorrhagic cases, a coagulum of blood as large as a walnut may be formed in the womb. Now, whenever in these cases you shall observe that coagula as large as your hand are expelled, you are to remember that they have been formed in the vagina and not in the womb. The

sphincter vaginæ muscle closes the canal so completely as to retain within the passage the blood that issues from the os uteri—it there becomes congealed, and is forced out whenever the accumulation becomes very considerable, or when the patient coughs, or suddenly changes her position.

I shall here close this letter, with the expression of my sincere respect. C. D. M.

LETTER XLI.

PUERPERAL DISEASES.

Gentlemen: I am about to address you to-day upon a subject of the extremest importance in any consideration of female complaints. I mean the diseases of the Lying-in. A treatise on midwifery might be, perhaps, more appropriately selected for such a discussion—but inasmuch as the general practitioner is liable to be called upon for counsel in many of the purely puerperal affections, he ought to be as well prepared as the Accoucheur himself to treat them properly.

Among the earliest and most serious of the disorders of the puerperal woman, we should enumerate fainting and flooding. They generally go together—so much so, indeed, that when a woman faints away shortly after the birth of her child, she should be immediately held suspected of flooding—whether there be any visible hemorrhage or no.

It is true, that a woman may faint immediately after the delivery of the child, and yet not be the subject of any considerable hemorrhagic discharge. This accident is most likely to occur to women in whom the womb has been excessively distended, either from a twin pregnancy, or the accumulation of a great quantity of the amniotic liquor. Such a person, having a very rapid labor, and a speedy discharge of the after-birth, is likely to faint for want of a due amount of pressure upon the abdominal viscera. The same thing happens to those who are relieved, by tapping, of a large ascitic collection.

I was present a few years ago, when the late Dr. Jacob Randolph, Surgeon, of this city, tapped for me a young woman who had a vast ovarian cyst. A broad bandage, or binder, was put, as usual, around the abdomen, to be drawn tighter, in proportion as the water of the dropsy should run off through the canula. When rather more than half of the fluid had escaped, and the abdominal walls had lost much of

their tension, I purposely relaxed the pressure of the binder, which I had taken by its ends in my hands. As soon as I left her solely to the pressure and support of her own abdominal integuments, she grew faint, but immediately recovered upon my tightening the bandage again. This experiment I repeated several times during the progress of the operation, with a view to satisfy my mind as to the relation between this lypothymia and the relaxation of tegumentary tension.

A woman whose abdomen becomes very suddenly and greatly reduced in size by the escape of a full-sized child—a great quantity of waters, and an after-birth of more than a pound in weight, suffers, then, the same sudden withdrawal of abdominal tension as the patient under paracentesis, and requires, like that patient, the support of a bandage, or binder, adjusted to the abdomen. I published in the *Philadelphia Pract. of Med.*, 2d ed., p. 204, a case, which is related in the following words:—

I attended Mrs. J. A. S., confined with her fifth child, in a labor that was perfectly natural relatively to the birth of the child, the delivery of the placenta, and the symptoms that immediately ensued in the parturient state.

Having waited about half an hour, I took leave of the patient near two o'clock in the morning, and had proceeded a good way towards my house, when I was overtaken by the husband, who entreated me to hasten back to the lady, as she seemed to be dying.

Upon returning to the house, I found my patient without pulse; the face of an extreme paleness, and her whole state expressive of the last degree of sinking or prostration. The idea that became immediately obvious was, that she must have had a large effusion of blood; but, upon placing the hand upon the uterine region, the organ was found to be well condensed; while, upon a careful examination of the bed, no very considerable extravasation of blood was detected. I found that the abdominal parietes were remarkably flaccid; to such a degree, as to strike me forcibly, as affording incompetent support to the viscera within. Indeed, the contractility of the abdominal muscles was so very slight, that it appeared to me the bowels could receive almost no support from their pressure.

After exhibiting such restoratives as were at hand, I folded two large towels into squares, and placing them upon the abdomen, as compresses, secured them by a bandage, which retained them *in sitû* and afforded such a degree of support to the contained viscera as I deemed sufficient to obviate the sinking and fainting tendencies that always ensue from a loss of this support or pressure. I enjoined rest in a horizontal position, removed the pillows from under her head, and found, when the forces of the constitution had rallied, there was no further alarm or distress. It

has happened to me many times to meet with this syncopal state, after delivery unaccompanied with hemorrhage, either external or internal; and in all parturient persons who are enormously distended, or who are prone to such faintings after delivery, I take the precautions suggested by the above case in good time; and I can safely say that such precautions generally result in success.

Fainting is caused by diminished tension of the bloodvessels of the encephalon, suddenly produced, whether *à pathematê mentis*, or from hemorrhage or other causes. There can be no such thing as fainting with the vessels of the brain full and tense. If you suddenly take away the support—I mean the extrinsic support that the great arterial and venous trunks, as well as the arterioles and venules and capillaries of the belly receive from the muscular and other integuments, you suffer those vessels to yield to the lateral pressure of the blood-columns—to become excessively distended, and thus to draw off the circulation from the superior parts of the economy, especially if the patient be permitted to sit up, or to lie too highly inclined. See to it, then, that the danger be obviated by early substituting the bandage pressure for the lost pressure of the abdominal walls—and that the patient be not allowed to sit up, or even to have pillows, where the case requires such a precaution. If through your oversight or ignorance the whole of the abdominal vessels be allowed thus to become engorged, your patient will be exposed to unnecessary risk—for how shall you be assured that the engorgement shall ever be removed, or that it shall not become the basis of incurable sanguine stasis, and so of mortal inflammation!

I ought to put you on guard against a mistake into which you might fall, were you to be governed in some cases by opinions like those just expressed. You must not believe that the newly-delivered woman faints from withdrawal of pressure and tension of the integuments when, in reality, she faints from loss of blood.

A woman may lose a quantity sufficient to cause an alarming and very dangerous deliquium, without any visible signs of flooding upon the napkins or clothing about her person—and that, even when the globe of the womb appears to be well contracted. Do not, therefore, trust to the very faithless diagnostic drawn from the application of your hand to the hypogaster—it will not always give a true report.

On a great multitude of occasions, I have found women to faint after delivery—say in half an hour, and sometimes in an hour, or even as late as an hour and a half subsequent to the expulsion of the afterbirth. I have had the napkin immediately presented to me for examination, and found it scarcely stained. Upon placing my hand on the uterine globe, too, I have found it well reduced in size, and firm, and

so small, as evidently to contain no considerable quantity of blood. Were one to trust to such a diagnosis as this, he would, in many instances, make a great mistake, supposing that the fainting does not depend on flooding—and this is the very error against which you should most vigilantly guard yourself.

Let me explain.

A woman, after the delivery of the placenta, shall have a good contraction of the uterus. She shall have a napkin applied firmly against the privities—and suppose herself to be quite well and safe. In the course of half an hour, or an hour and a half, she shall ask to be fanned, or for some drink, or for the volatile salts, and say she is faint. Her pulse will be very small, and feeble, and frequent—or it may be, undiscernible. The attendant at once places his hand upon the hypogaster to discover the state of the uterus, which he finds small and sufficiently firm. He ascertains that there is no visible hemorrhage, and is apt thence to conclude that there is no hemorrhage at all. But if he trusts to restoratives and cordials, *et id genus omne*, he may lose his patient—for the vagina is filled with coagula in quantity sufficient to make her faint away, and even to put her life at risk.

The vagina is extremely distensible always, but immediately subsequent to delivery it remains so dilatable that the slightest pressure against its walls makes them yield. It has lately been expanded in the labor to a dimension sufficiently great to contain the trunk of a child's body, which is very large. If the nurse, upon her delivery, should clap a large napkin against the exterior genitals, and the patient, in order to keep it there, should strongly adduct the thighs, the issue of the lochia would be impeded, or prevented entirely—but, even the condensed womb bleeds, more or less; and the blood that it sheds, passing into the vagina, and finding no issue at the ostium, becomes coagulated. The whole tube of the vagina becomes enormously distended with coagula, making a mass as large as the trunk of a child's body, and though the woman faints for the loss of her blood, yet, the hand on the hypogaster does not discover this fact. The napkin outside acts as an obturator—and the clot inside as a tampon. The lochia cannot find issue—and the quantity lost is considerable enough to produce fainting. But I have long been convinced that another principle, in addition to that mere one of the loss of blood, is concerned in the production of the phenomena. I mean to say that the woman will faint for the loss of the blood, and continue to faint again and again, provided the coagula are not removed from the vagina and cervix uteri—but, she will immediately recover from her deliquium, upon their removal. There is some influence of a disturbing nature, as to the nerve power, that is connected

with the presence of a large quantity of clots in the vagina—probably that influence may proceed from the distension of the walls, and their pressure on parts in relation to them exteriorly, and on a nervous impression which they thereby suffer. Be this as it may; it is quite certain that, if you should press two fingers of the right hand into the canal of the vagina, and with them break the clots to pieces, while, with the other hand upon the hypogastrium, you press the globe of the womb downwards into the excavation of the pelvis, exhorting the woman, meanwhile, to bear down, the coagula will all be expelled, the vagina will contract its tube, and the woman will at once be relieved, and scarce fail to express her satisfaction with much energy and emphasis. To take out the coagula, or *turn out the clot*, as I used to say to you, does not give the woman any more blood, nor replenish her veins, and yet hundreds, yes, many hundreds of times have I seen women instantly recover from the most depressing feelings of faintness and prostration, upon turning out the clots from the vagina. Hence, I repeat, that to turn out the clot is to relieve the patient of her deliquium. But, gentlemen, suppose you do not turn out the coagula! why, then, you leave a tampon of clotted blood in the vagina! No sensible man would ever think of such wicked folly as that. Every sensible well-instructed medical man knows that where the womb is firmly contracted there is no flooding, but only lochia—and that where it is relaxed or uncondensed it will bleed, and that the blood it sheds, provided it be retained, will fill its cavity, and distend it more and more in proportion as the blood flows—and not only so, but the larger it becomes the more rapid is the effusion. But the womb, after labor, is alternately contracted, and soft or relaxed. If you leave a tampon in the vagina, the womb whenever it becomes relaxed will fill, and the contraction is often not strong enough to expel the coagulated blood. The patency of the hemorrhagic orifices on the inner superficies of the uterus augments at a certain ratio with the augmentation of the superficies. To leave an immense tampon of coagulated blood in the vagina, even while the womb feels well condensed, is a great error in practice. If nothing can be more preposterous than to place a tampon in the vagina of a newly-delivered woman, nothing can be more careless than to leave there one that nature may have adjusted there in the shape of a clot of blood.

From all the foregoing, it results that a woman may faint from hemorrhage after delivery notwithstanding you can discover no great distension of the womb, and though there may be no external visible signs of a flooding—and the precept that arises out of it is this—viz., when you go into an apartment where a woman just confined is in a fainting state, your first act of duty is to place your hand on the hypo-

gastrium in order to learn whether the womb is any larger than it ought to be;—second, to make a careful investigation as to the quantity of blood contained in the cloths and bedclothes about her person;—and third, when the womb is well down and the clothes quite unstained, to pass two fingers of the right hand into the vagina and turn out the clots if any be there; and if there be none there, nor in the womb, have a clear diagnostic of deliquium from some cause unconnected with flooding.

But, a woman shall flood very dangerously, without discharging any blood upon the napkins or bedclothing about her, and when you come to put the hand upon the abdomen in order to inquire into the condition of the uterus—you shall find that the womb has become very large again, and has risen up, so that its fundus reaches as high as the navel. This is a case in which, not the vagina only, but the uterus also is filled with blood. Whenever I wish to learn whether the womb is just as large as it ought to be, I proceed as follows: Standing near the patient's right side, I apply the thumb of my left hand to the anterior superior spinous process of the right ilium, and, stretching the point of the little finger towards the left anterior superior spinous process, I learn whether the fundus uteri rises above the ulnar edge of my hand; if it rises but a little higher than that edge, the womb is not well contracted; if it is lower than that edge, it is perfectly well condensed.

It is worthy of remark that the clot in the womb in this case always feels very solid; so much so, in some of the samples, as to tempt to the belief that it is not clot, but a large portion of placenta. The woman's life is in danger until the clot shall be discharged; and there is no time to be lost, therefore, in taking it away. This is to be done by compressing the uterine globe with the palm and fingers of the left hand, while with the index and medius of the right or sometimes with half the hand passed beyond the sphincter vaginæ, you are enabled to break to pieces the solid coagulum in the womb itself with one or with two fingers. After having first got out those that may be detained in the vagina, exhort the woman to bear down. If she makes a proper effort, while you at the same time continue to break up the masses that come within reach of your fingers—the whole will be found suddenly to gush forth—the womb will again become hard, condensed, solid, and very small—and that is the end of the flooding for the present. As soon as the uterus has become thus quite empty, you should endeavor to secure a good permanent contraction of its muscular fibres, by gently pressing or kneading it with the palps of the fingers of the left hand on the hypogaster—and this you should do for a considerable length of time. You know that not the muscular fibres of the womb only, but also those of the bowels may be excited to contraction by frictions,

which serve to arouse and stimulate their irritable nature. These frictions, then, are very powerful means of keeping the texture of the womb hard and firm; but if the texture of the womb is thus kept hard and firm, don't you perceive that there can be no flooding?—since, in that firm and contracted condition, the vessels of the womb are crimped and constringed, and their *lights*, in many instances, almost put out. Surely you recognize the truth that the great veins and sinuses of the womb, that are seen in it when at full term, are invisible in the non-gravid organ. Well, then, when you want to make those great veins and sinuses and arteries as small as possible, so that they may carry as little blood as possible, you will do all you can do to make the womb approach, as near as possible, to its non-gravid magnitude by contracting and condensing its muscular tissue.

Let me put you on your guard, however, against too much confidence in the conservative power of this treatment. You are not to suppose, because you may have dextrously relieved the patient in compelling the uterus to contract, that she is, therefore, absolutely safe. It is true, as I said, you have arrested the flooding for the present; and it may not begin again: it is, however, still truer, that in *most* of these cases, the muscular irritability of the womb is below par, and that the effusion of the lochial blood, going on, however moderately, and clotting as fast as it exudes, it tends to fill up and again distend the cavity of the womb, which, the larger it grows, the more rapidly it bleeds, and so reproduces the feeling of faintness, with diminution or loss of pulse, anxiety, jactitation, and all the signs that attend excessive sanguine effusion. Your most vigilant care is required to meet these symptoms in their very inception. You *will* discover them early, if you be really *panoptical* in your vigilance—and you will put an end to the second and to the third attacks as easily as you did to the first; and by the same method. I believe, indeed, I ought here to tell you, that in a majority of the cases in which you shall hereafter turn out the clot, you will be obliged to do it a second time, and in many instances a third. I don't remember that I have ever done so four successive times in the same case.

A strong compress, laid on the hypogaster, and confined there by a binder, consisting of a long towel or pillow-case, will aid you to keep the womb from expanding again and again.

As to a compress and binder, let me tell you that I have at different times been teased by them when the tendency to repetitions of the hemorrhagic attacks was very strong—for, the abdomen being concealed beneath compresses and bandages, I found that I could not so perfectly observe the state of the uterus, which would steal a march on me by

filling itself with a quantity large enough to make my patient ill before I could discover it. Much vexatious experience of this sort has taught me, long ago, that the best compress is a folded napkin held down by my own hand, for it has the advantage of being not merely a compress, but my hand is an intelligent or perceptive one, one that is capable of telling me—"Sir, the womb is filling again. Take care lest it should hurt her."

As soon as you can feel satisfied that the disposition to be hemorrhagic is over, you should adjust the compress over the uterine globe, and secure it there with a bandage round the body. I advise you to do this with your own hands in all serious cases of the sort, because you can better trust yourself than any nurse whatever. At least, your mind will be at ease, as you will know what you have done; but you cannot so well know what another has done under your direction.

There is another point that is worthy of your most especial regard in such cases. I mean the position of the patient.

She must not sit up—she must not even be inclined upwards, if she be really ill—she *must* have her head in the same plane as her hips—or, if she be very ill, you *must*, you must make her head lower than the hips, by putting some books, blocks, or bricks under the foot-posts of the bed, which will elevate the legs and hips, and depress the trunk and head. I have already said that fainting results from diminution of the tension of the vessels of the encephalon. Suppose a person to stand up and be bled at both arms—he would faint for twelve or sixteen ounces—but suppose him to be bled while lying down, he would bear the loss of twenty ounces; and if he were to be held with his head downwards, you might take four times as much, probably without causing deliquium. When the head is down, the blood does not quit the brain so readily; but, as long as the encephalic tension is kept up by means of a due fulness of the vessels, there cannot be such a thing as a fainting fit. If there should be no fainting, there would be no suspension of the somatic innervation.

If she faints badly, the woman's heart scarcely beats, and that so slowly and at such long intervals that the blood is apt to coagulate within the resting auricle and ventricle. Suppose your patient to have her right auricle and ventricle and pulmonary artery instantly filled with a single coagulum! What will you do for her? The precept then is, in all cases of faintness from flooding, to get the head down as low as may be. Therefore, take away the pillows and bolsters—and refuse to restore them until all danger is clearly over. This precept is so clear, so plain, and the reasons for it so understandable,

that I have oftentimes, when called in consultations, been amazed to find a medical brother, in good practice, and of considerable experience, neglecting it. I have seen such an one alarmed as to the state of his patient, and using all means to arrest the fainting, save the first and best—namely, the getting of the patient's head down. It was but the other day that I was called, in consultation, to a case of desperate flooding from placenta prævia. I found the woman's head well raised on pillows. These pillows I not only took away, but I elevated the lower end of the bed, and bringing the head over the edge of the bed, allowed it to hang or droop down over the side with a view to keep the vessels of the encephalon full, for I know that as long as the encephalon is kept duly distended by vessels full of blood, so long will the brain generate and radiate its nerve force, its biotic force to the organisms—but if the brain cannot produce and send forth the nerve force, wherewith shall we carry on life in the organs? The heart will not beat, nor the diaphragm move, nor the par vagum do their office—and she will surely die.

When a person lies in deep deliquium animi from loss of blood, the pulse is not to be felt at the wrist, and the sounds of the heart are not plainly discerned in auscultation. Under such circumstances, the cavities of the heart, I repeat it, fill so slowly that there may almost be said to exist a stasis of the blood in the auricles and ventricles. It is very certain that when blood ceases to move, it tends to coagulate; and it is very true that blood coagulates more readily in those who have already suffered great loss by hemorrhage than in such as are not anæmical. From the above remarks, you will perceive that if your patient should faint very badly, she will be liable to perish suddenly, or fall into incurable ill health by the formation of a clot in the auricle—or even in both the cavities as well as in the tube of the pulmonary artery. I am very sure that I have seen some women perish in this manner; cases in which I made the diagnosis of heart-clot formed during a deliquium, and a prognosis of speedy dissolution, having been verified by dissection after the fatal result. See my article on the Heart-Clot, in the *Med. Examiner.*

I beg you to consider briefly the effects to be produced by a mass of fibrinous remainder of a clot suddenly formed within, and moulded by the right cavity or cavities of the heart. Inasmuch as the venous blood can only get back to the arterial side by passing through the pulmonic heart—such a clot, if of large size, must either wholly or very greatly hinder the return of the venous blood. In fact, it would be equal to a partial ligation of the cava, superior or inferior. Death is likely to follow the occurrence either immediately, or within a few hours. I have

observed it to occur within eighteen hours—in thirty-six hours—in eighteen days.

If you reflect upon the danger of giving rise to the formation of a heart-clot, I am sure you will see the necessity of obviating for your exhausted patients every inducement to deliquium animi. You will not permit such persons to sit up before the circulation shall have acquired a degree of vigor that insures you against the risk of bringing about a syncopal state, that *may* prove instantly fatal.

Here is another point. It should be a rule to ask for information as to the habits of a patient, who may be placed under your care, in labor. Has she always had fainting, and floodings, when confined? If she has always suffered in this way, there is reason to think she will do so again, if something be not done to prevent it.

Whenever I am informed, as to a patient about to enter upon her lying-in, that she faints and floods in labor, I invariably make arrangements to be provided with half a drachm of ergot. Let it be procured, and kept with the brandy, the laudanum, and the other preparations usually made for the exigencies of a labor. See that the ergot is of a reliable quality.

If a woman, who is within some ten or fifteen minutes of the conclusion of her labor, should swallow ten or fifteen grains of ergot mixed in water, the ergotism could not be developed until after the child's deliverance; but, within ten or twenty minutes subsequent thereto, it would begin to excite the nerves of the womb, and force them to compel the uterine muscles to contract and remain contracted.

The power of ergot over the uterine nerves, and through them, over the muscles of the organ, is so great, that I always confidently expect a woman, who has invariably flooded before, will not now suffer at all in that way if she take ergot. I say, I confidently expect it, but I must admit that an occasional disappointment is to be met with; occasional, I say, but those occasions are so rare that, I repeat, I confidently expect to obviate them. I suspect that on certain occasions such disappointment has arisen from my having had an effete drug, instead of a good one.

As an ounce of prevention is worth more than a pound of cure, I hope, when you come to practice, you will prevent hemorrhages in this way. Yet, if a flooding has not been expected, and comes suddenly upon your patient, you will have good reason to expect a tonic contraction of the womb to follow a good dose—say fifteen to thirty grains—of the secale; give it, therefore, for there is no danger or inconvenience, since it cannot hurt the child, who is already born, nor will it do any evil to the mother.

Do not be afraid of opium. Opium has a salutary power over the hemorrhages, for it has a vast control over the innervative forces, and quells a hemorrhagic nisus as it quells a spasm of the stomach, or a toothache.

I shall not dwell on the therapia of floodings any further. I have but one principle of guiding importance on the subject, and that is, to insure by all the means in my power, the condensation or contraction of the uterine texture; all other views and treatment are to be held subordinate to these views, and the treatment that, under them, tends to bring about and secure this desirable end. If you understand this, and understand it fully, you cannot go wrong, nor can you act wrongly in your methodus medendi for such cases.

After-Pains.—A woman who is confined for the first time is not to be expected to suffer from after-pains. A first gestation is, in general, insufficient wholly to deprive the uterus of its tone; but if a woman have gone through gestation and labor a second, a third, or a fourth time, the tonicity of the organ will be found to be less than it was after her first confinement; and although the nervous force may be sent to it energetically, yet it will not be sent into it in the steady, equable manner which characterizes the condensing power of the uterus not already exhausted by antecedent pregnancies, and the throes of reiterated parturition.

There are some females, however, who preserve throughout life, and after repeated gestations, the same steady force as to the uterus, which characterizes that of the primipara. I have at this moment, under my care, a woman confined, now five days since, with her sixth child, and who has not had since the birth of it, and who never has had after the birth of any of her children, a single after-pain. This woman always recovers progressively and steadily from the gravid condition, without hemorrhage, without protracted lochial discharge, or any unusual symptom. Her uterus, which at the commencement of her labor, is ten or eleven inches in length, by eight or nine in width, and which would probably weigh, immediately after the delivery of the after-birth, a pound and a half, goes steadily on, reducing itself to its non-gravid condition, wherein it would not weigh over two ounces and a half. She has this good fortune, in consequence of retaining the same uterine tonicity, the same contractile force, that she had in her early youth—and one meets in practice with a sufficient number of examples of the sort to convince him that the case is not a very rare one.

You will find in your intercourse with the world, as practitioners of midwifery, that women, in general, are acquainted with this difference between the primipara and the multipara female; for they will say to

you—of the woman in labor—that, of course, she is not to have after-pains, because this is her first confinement; or of another, of course, she is to have after-pains, because this is her second, her fifth, or her tenth labor.

What is an after-pain? The pain of a labor consists chiefly, not solely, in the pain felt at the cervix uteri, and is the result of violence done to the texture of the cervix and os by the overpowering contractile force of the fundus and body. The pain is at the resisting part; it is not suffered by the compelling organs. If a man strikes you a blow with his fist and knocks you down, he hurts you and not himself; in the same way the fundus and corpus uteri, when they strike to rive open, and overcome the resistance of the cervix and os uteri, hurt them, excite pain in them, and sometimes even tear them to pieces, but do not themselves experience any pain; there are hundreds of women in whom the circle of the os uteri is torn in labor; which is the reason why, in the examination of women who have borne children, you may find fissures in the anterior or posterior lip, or at the right or left angles of the lip, where the os is most likely to give way.

I ask you again: what is an after-pain? An after-pain is not designed to expel anything, unless there be a clot to be expelled. When there is in the womb a hard clot that will not break to pieces, and when the os uteri, immediately after the expulsion of the after-birth, has shut itself up like a steel trap, as it often does, the clot which cannot get out until the os uteri is again dilated, will excite pain by dilating it as the child did by dilating it. But there are thousands of examples where there is no clot to be expelled. When there is no clot to be expelled, the after-pains cannot depend upon the resistance of the cervix uteri to the contractions of the body and fundus. A woman who has an after-pain designed to expel nothing, will have the pain in the whole womb, not in the cervix, as in the labor pain; but pain in the whole womb in labor is a dangerous thing; it is a pain which proves the existence of rheumatism in the uterus, or of a tendency to laceration of the organ. So that you see there is a difference between the true after-pain and the pain of labor. A woman in labor does not complain of pain and soreness if you press your hand upon the globe of the uterus, whereas, when she has just been delivered, she shrinks from the pressure, saying, "Sir, you hurt me—that is very painful." The whole womb is more sensible of pain, intolerant of pressure; the function of its sensitive cords is exalted after labor. Now, during the moments of relaxation, while the sensitive fibres are not compressed in the tissues among which they are distributed, the woman feels no pain; but as soon as the motor cords begin again to excite the muscular tissues, the passive tissues among

which the sensitive cords are also distributed, feel that pressure, and the woman feels the pain arising therefrom; just as she feels the pain arising from the rude contact of your hand. This is an after-pain. I take it for granted that the after-pain is designed for a useful purpose of some sort, and I submit it to you whether by the contractions of the organ, the blood in the vessels of it, whether they be large or whether capillary vessels, is not pressed or chased out into the correlative vessels, thus allowing the uterus to grow smaller and smaller and provoking the more vigorous action of the absorbents. Such is the process by means of which the womb recovers, after forty days, its non-gravid volume and form. An after-pain, therefore, is a good thing, and a natural. You ought not to make haste to stop, or even lessen it, except it become too violent.

In a former letter, I spoke of the frequent occurrence of rheumatism as seated in the uterus; and I have no doubt that many of the violent after-pains which we meet with are cases aggravated by a rheumatic condition of the organ; for, a woman who has suffered from rheumatismus uteri for weeks before the birth of her child, I have always found more prone than another to agonize with these after-pains. I speak with regard to their intensity, and their rebelliousness against the usual modes of treatment.

An ordinary after-pain will be relieved by an opium pill weighing one or two grains, or by two or three such pills; or, it disappears after a few doses of laudanum, consisting of twenty-five or thirty drops each. A dose less than thirty drops it is hardly worth while to give. A woman may take an opium pill of a grain, or thirty drops of laudanum, every hour, until she has taken two or three such doses; and it is rare to hear her complain of after-pains after taking the second, or more especially the third such dose. Camphor, also, has a very special power to take away the distress occasioned by after-pains. Our good Dr. Physick was accustomed to say that camphor seemed to have been made for women, with whom it always agrees, while it always disagrees with men. As a general rule, opium as a medicine is preferable to camphor, for it is less heating and less stimulating to the whole economy; but inasmuch as there are idiosyncrasies which, under the use of opium, render it distressing or intolerable for certain persons, you should prefer for such patients the camphor medication. Here is a good formula.

℞.—Camphor ℥ss;
Pulv. gum. acaciæ ʒij;
Sacch. alb. ℈ij;
Aq. cinnam. ʒiij.
M. ft. Mist.
S.—The dose is a tablespoonful.

This will give you six doses, each containing five grains of the drug. You may give the second dose in half an hour after the first; or in an hour or an hour and a half; the other doses may be repeated at longer intervals, *pro re natâ*. In some instances, it is proper to add a portion of laudanum to each dose, say 10 or 20 drops.

Don't follow the old fashion, which commanded us always to send an eight ounce mixture to the patient; a fashion good for the apothecary, but very bad for the patient; for the nurse might make her sick by giving her the whole drachm, whereas she could not do her any mortal injury by giving her half a drachm of camphor. Drugs and medicines are a sort of edged tools; and nurses and unlearned people, generally, are not to be permitted to use them, *à discrétion*, as a French tavern-keeper says of the wine on his table.

After-pains irritate; violent after-pains, frequently repeated, may irritate the whole constitution so far as to develop strong febrile phenomena. Where they are accompanied with fever, or frequent pulse, how can you discriminate between the phenomena so arising, and those attendant upon the most mortal attacks of metritis or puerperal peritonitis?

I pity you, gentlemen, from the bottom of my heart, for the distress and embarrassment you are destined, inevitably, to encounter from the difficulty, nay, the almost impossibility of making a correct diagnosis in such cases. I think one of the most distressing nights of my professional life was passed in the apartment of a lady of the greatest worth, and of the highest social standing, who, after a long attack of rheumatismus uteri, preceding her accouchement, gave birth to a feeble child which died a few days after it was born. The expulsion of the placenta was followed by severe after-pains, that deprived her of sleep during the night, and which, continuing in an aggravated form, during the following day, brought on a reaction of the heart and arteries, during which the pulse beat from one hundred and twenty to one hundred and thirty strokes per minute, and this, accompanied with the most intense pain of the abdomen as well as of the head. She was a person of great dignity of character, and the utmost propriety of conduct; hence, the loud complaints she made convinced me, from my knowledge of her character, that her suffering was nearly intolerable. I knew that she had had rheumatism of the womb before the birth of the child, and that the rheumatic condition had modified the muscular power of the uterus; interfering with, and retarding the normal progress of the labor. But, when I discovered, six-and-thirty hours after the accouchement, that she had a pulse of one hundred and twenty, with a hot skin, and the most acute pain of the abdomen, I could not but hold her life to be

seriously threatened. I passed the whole night, as I have said, in her apartment, agitated by the most conflicting opinions. Certain motives induced me to refrain from letting blood in the case; and yet, when her groans and cries prompted me to come to her bedside, to examine with the most minute care the state of the pulse, of the respiration, of the calorific power, of the tension and sensibility of the abdomen, as well as the sensibility of the vaginal cervix as ascertained by the Touch, I always returned to my seat, comforted with the conviction that I was treating a rheumatic neuralgia of the uterus and the splanchnic branches of the great sympathetic. The diagnosis was, in my opinion, undeniable; yet, in half an hour, her cries and groans recalled me to her bedside to renew my diagnosis of rheumatism, and to go again and again through the same sea of troubles, of doubt, and misgiving as to the correctness of my judgment. For I said: If I judge wrong as to the diagnosis of the case, and if I lose this patient, I shall never again feel perfectly contented in this world. Happily for me, the morning brought a remission to the intense distress. My patient recovered from her lying-in, and has continued ever since, now these many years, to suffer from distressing rheumatic neuralgia in many parts of her person.

I should in vain endeavor to put down upon paper the discriminating signs by which you are to ascertain that your patient is laboring under rheumatismus uteri, or neuralgia of the womb, and not under some acute inflammation of that viscus. It is idle to write such a relation; a picture cannot be written; it must be painted—nature must paint it for you—and you will find the picture in the clinique of your practice. Perhaps, if you and I were standing by the bedside of a patient laboring under this disorder, I might be able to point out certain signs—discoverable in the physiognomical expression, in the tone of the voice, in the frequency, quickness, and volume of the pulse, in the respiratory acts, in the ability to move the limbs; in the patient's tolerance or intolerance of palpation, whether abdominal or vaginal; in the discharge from the uterus, and in the state of the urinary bladder and the bowels—that should show you why the case should be called neuralgia, and not metritis, or metro-peritonitis. I could indicate, and you could see these things; but how can I write them down! You know I cannot; nor no man else.

If you have studied your profession well, so that you have made yourselves masters of guiding principles in diagnosis, you will be able to find your way through these devious paths, and I must leave you to your own resources in the matter.

I will not dismiss the subject, however, without first repeating that there is not a more difficult task to be performed by the physician than

to make the diagnosis in such cases. An antecedent rheumatic state of the womb may serve to lighten up the path of the observer, but, let him beware, oh! let him beware! that even rheumatismus uteri may pass into metritis or metro-peritonitis; in which case, an error in judgment costs a human life; costs the disruption of the bonds of the family compact, the overthrow of the family altar, and the suppression of the most grateful incense that can rise to Heaven—the smoke of the incense that ascends to declare the happiness of parents and of children, in the holy and sacred temple which is called Home.

The vessels in the interior of the uterus, that open upon the late placental superficies, continue to bleed after the delivery has taken place. In a womb recently emptied, there is a considerable number of patent orifices, of which you may see a very pretty drawing in Dr. Robert Lee's *Treatise on some of the Diseases of Females*, which represents the orifices arranged in such a fashion as to furnish them with a species of valve. Noortwyck's drawing is also a very good one.

The blood discharged from the vessels is called the lochia; τα λοχια: λοχεία is the Greek word from which it is taken. It is called in German, *kindbettreinigung*, and is called *lochies* in French. The discharge continues for several days. Between the third and fourth days, the abundance is less; probably because the forces are employed in determining the new movements towards the mammary glands, which now become centres of fluxion, whereby the granules of the gland are evolved, in order to the secretion of the nutriment of the new-born child. When the milk has been fairly secreted, the lochial discharge increases again; and on the sixth, seventh, eighth, and ninth days, it becomes more abundant than on the fourth and fifth; so that, when your patients complain to you on the third and fourth days of the diminution and almost disparition of the lochial discharge, you should not be disconcerted, nor allow them to become so; seeing that it is not a morbid but a natural phenomenon.

In from eight to twelve days from the birth of the child, the red-colored lochia has given place to a greenish or yellowish-green fluid, possessing a peculiar and often most offensive odor, powerful enough to fill the whole of a large apartment; and so intense, that no scrupulous cares on the part of the monthly nurse can keep the patient's person and bedclothes free from the disagreeable effluvium. The odor sometimes approaches that of substances in a state of putrefaction and maceration, and the inexperienced practitioner can scarcely avoid a feeling of doubt and distress as to the safety of the patient, considering the intenseness of the stench. But I believe that I can truly say, the woman whose lochia is so disagreeable as above expressed, is scarcely more liable to

attacks of disease than she from whom no offensive exhalation can be perceived. I say this, founding myself upon much observation, for I have often experienced this great distrust on such occasions, when, it seems, I had no reason to do so; nor can I remember that the attacks of disease that I have met with in my lying-in patients have commonly been characterized by an antecedent unusual lochial odor.

There are some women in whom the discharge continues until the end of the month; and it is by no means rare to meet with persons in whom it does not cease until the end of the sixth week. The greenish discharge, with its peculiar odor, gradually gives place to a colorless and bland mucus, which, for such women as have great powers of recovery, is gone entirely by the twenty-first day. This discharge is very like thin albumen-ovi—and comes from the crypts of the canal of the cervix. In the early stages of a labor, when the os is opening, those cryptæ send out a profusion of this albumen; and when the cervix is recovering after the fifteenth day, the excretion becomes again abundant, and is not of bad omen.

I have seen a case in which the womb has apparently recovered its non-gravid magnitude in three weeks from the birth of the child; and I have seen a case in which the uterus, filled with coagulated blood, extended nearly up to the umbilicus of the woman on the eighteenth day after the child was born. A womb that remains very large is more likely to give rise to a protracted lochial excretion than one that firmly condenses itself, and approaches the state of the non-gravid uterus. You will have, then, a prognosis that is favorable or unfavorable, according as the womb is large or small. If the womb grows small rapidly, and puts an early end to the excretion, in consequence of its healthful condensing power, the woman is not likely to suffer danger from the cessation of the discharge; but if a womb remain large, and heavy, and doughy, and the discharge cease too early, or too suddenly, the diagnostic will be that of a pathological condition of the organ, and the prognosis will flow out of that; for an inflammatory condition of the organ could not but modify its power of excretion. In one case, you may be called on to interfere therapeutically; in the other, you do mischief by your intervention.

When complaints are made to you on occasions like these, you should give them careful attention, and institute such inquiries as to the state of the sick organ, as may suffice to discover the truth as to whether it be morbidly deprived of its excretive power, or whether it be physiologically deprived thereof.

You will find, in the world, a foolish prejudice, especially among the less informed classes of the population, which induces them to allow the

accumulated products of the foul excretions of the uterus to rest and putrefy upon the external genitals, from an ignorant fear they have of checking a discharge deemed essential to their safety. I hope you will always endeavor to dissipate all false notions in relation to this matter; and you will not find it difficult to do so, if you should take the trouble to explain to the patient or to the nurse, that putrid exhalations arising from the accumulated blood and mucus at the orifice of the vagina, or within its canal, expose the woman to the dangers of putrid infection; and you should direct the nurse, in all cases under your care, to keep the woman scrupulously clean by ablutions of warm water and soap, to which should be added some spirits or wine. For persons whose circumstances will warrant such expense, I generally direct my nurses to make ablutions with red wine and water. I find that some of the brethren, and even some of the monthly nurses, in this quarter, are in the habit of ordering the vaginal injection. The circumstances would be very peculiar that could induce me to make such a prescription; for I conceive if the napkins that receive the discharge are changed several times a day; and if a sponge, squeezed out in warm soap and water, or wine and water, be used as a detergent, the contractility of the tissues within will always emulge them sufficiently. I am not quite satisfied that it is the dictate of prudence or caution to fill the patient's womb with soap and water, or any other material of injection.

In cold weather, and in the variable seasons of spring and autumn, the woman should be carefully protected against the danger of taking cold by undue exposure of these parts. Let me advise you to caution the patient against going, even after the lapse of the month, to the privy, the exhalations and the damp and cold of which render her very liable to repercussion of the fluxional movements, which should be most sedulously avoided.

Some women have their lochia too profusely, from getting up too soon: when they are thus profuse, one of the most reasonable remedies will be found in ordering them to take again a recumbent or horizontal posture. Such a position, taking off the strain from the distal branches of the vessels, is alone, in many cases, sufficient to put an end to the morbid momentum of the blood in its uterine and spermatic branches. When recumbency fails to cure, the question might present itself of the propriety of bleeding from a vein, in order to take off a portion of the injecting power of the systemic ventricle; or, if such a procedure is not to be thought of, and if the excess be justly attributable to an enfeebled or atonic condition of the uterus, one should direct the patient to take some astringent infusion; such as infusion of red roses acidulated with aromatic sulphuric acid; or infusion of cinchona and cas-

carilla; or quassia, or chamomile; or infusion of krameria, or diluted tincture of catechu or kino; or some doses of opium; or the saccharum saturni; or alum-and-nutmeg powders so often mentioned in these pages; or more than all, the vinum secale cornuti, or the secale in powder mixed with water, or one-grain pills of ergotin; the doses to be repeated once in an hour or more.

I shall take advantage of the present occasion to refer you to the 220th page of that charming volume, entitled: *Lectures on the Theory and Practice of Midwifery*, delivered in the Theatre of St. George's Hospital, by Robert Lee, F. R. S., &c. &c.: London, 1844, 8vo., a book which I could desire to be in the hands of every one of my pupils, as I look upon its author as the ablest man in all England, in this department of science and practice.

I told him, in 1845, that he might safely die now. "Why die?" said he.—"Because you are already ineffaceably inscribed on the roll of Fame." "How's that? how's that?" said he.—"It is thus, my dear doctor: first, you are the man who has made the profession know the true nature of phlegmasia-alba-dolens; it is you who have taught us the malady is crural phlebitis; secondly, you are indissolubly united with that company of men who have established the spontaneous ovulation as a cause of menstruation. Nothing can separate your fame from that of Négrier, Gendrin, Pouchet, Purkinje, Von Baer, Rudolph Wagner, &c; thirdly, you have just now shown me your last and greatest discovery, that of the largest ganglion in the human body, to wit, the cervical ganglion of the womb. I don't see anything left for you to discover, and therefore, I say, you may die now; nothing can prevent you from being immortal." Dr. Lee replied: "I'll no die yet! I'll no die yet!"—and I am very glad to learn that he is still living and in excellent health. Such people ought to die of old age, *and nothing else*, as we say in America.

But to return to his 220th page; he says: "This discharge from the uterus after delivery, called the lochial discharge, does not usually cease, altogether, until the uterus has contracted greatly, and become much reduced in volume by the absorption of its coats, bloodvessels, and nerves. The uterus is much more rapidly absorbed in some women than in others, and this chiefly depends on the previous state of the patient's health, and the nature of the labor."

I cannot agree with Dr. Lee in the opinion that the uterus is *absorbed;* because I look upon the virgin uterus as a gravid uterus *in potentia;* a uterus possessing every organ and part of an organ that is necessary to enter into the composition of the gravid womb; which when it returns to its non-gravid condition, does so doubtless by the aid of much ab-

sorption, but not by the "absorption of its coats, bloodvessels, and nerves;" for I conceive them never to be absorbed. Dr. Lee might as well say that the granules of the female breast are absorbed after the weaning of the child, or that they do not exist in the virgin; but he knows that Sir Astley Cooper has demonstrated them to exist even in the male gland. I offer this little criticism on the 220th page of my excellent friend's work, because, although, "*aliquando bonus dormitat Homerus*," Homer himself ought to be waked up when he does nod.

It is customary to put a binder around the abdomen of a woman just confined; a precaution rarely neglected in this country; but the neglect of which is usually assigned as the cause of much after suffering and ill health that the patient causelessly attributes to the ignorance and carelessness of her monthly nurse, or her medical attendant, should she happen not to have a good getting-up.

It is necessary that you should be cautious in the use of the bandage; for if the bandage be worn too strictly and with a heavy compress be-between it and the abdomen, it cannot but happen that the globe of the womb, which for a few days after delivery is as large as a cricket-ball, will be thrust down into the excavation, pushing the vagina before it, thus shortening that tube, on the upper extremity of which the uterus rests, and which, in fact, furnishes to the uterus nearly its whole support amidst the bones of the pelvis. Suppose you were to fix one of the utero-abdominal supporters, as they are called, upon the hypogastrium of a woman just confined, and compel her to wear it for the forty days ensuing, or until the uterus had recovered its non-gravid magnitude and weight, would not your patient be sure to recover with a prolapsus uteri? Messrs. M'Clintock & Hardy, in *Practical Observations on Midwifery*, Dublin, 1848, 8vo., at page 6, inform us that at the Dublin Lying-in Hospital, where they made the "Observations," the binder is regarded as a most essential article in the Lying-in ward, that Dr. Joshson looks upon it as one of the most important means of securing a good detachment and expulsion of the placenta; and they even attribute to its universal use in the house the fact that only one case of hour-glass contraction, requiring the introduction of the hand, had occurred there for five years. Should you meet with the work above cited, be not, I pray, misled by their statement, for experience and reflection will come to show that hour-glass contraction is caused by adherence of the placenta to the womb, an adhesion so firm that the strongest contraction of the womb cannot displace it. In such an event, the placenta serves as a splint to distend the fundus, whereas the corpus and cervix, finding no opposition, contract and shut the placenta up in the superior cell. Their explanation is an error.

You will find, at page 208 of Prof. Asdrubali's work, *Tratato Générale di Ostetricia, Teoretica e Pratica*, vol. 2d, some excellent observations on the evils and abuse of bandages; and inasmuch as, throughout the United States, the most incorrect and harmful notions exist on the subject, I think I shall do you no disservice if I translate the whole passage from that most learned and admirable author.

"The habit of binding up the abdomen of women in childbed was in use among all the ancients. Yet Peu and Mauriceau have declaimed against the abuse of it, though they did not admit that it should be wholly proscribed. Many of the moderns still advocate its employment, but with great precaution; as if in doubt whether it might do most good or most harm; but the majority of them have condemned the custom. Buchan looks upon it as absurd, and Gorter as mischievous, and as the occasion, almost always, of serious disorders.

"Among the motives that have prevailed among some to recommend the binder, the principal one was to furnish the patient with the same sort of aid as it is customary to give the patient in dropsy, after the operation for paracentesis, with a view to prevent attacks of lipothymia and syncope, likely to ensue upon the sudden and great evacuation of the abdominal cavity. Another motive was, to restore to the abdomen its non-gravid size and form.

"It is not to be doubted that the cavity of the abdomen, when compressed by the binder, will find as much assistance for the compression of the viscera and bloodvessels as it had previously received from the gravid uterus. But, inasmuch as, for the obtaining of this effect, the abdomen must be firmly bound, and as there is no other motive for it, the constriction, no doubt, is often sufficient to produce suppression of the lochia, whence may arise suffocation and pain, which are the beginnings of terrible maladies. How some recommend it without clear motives, and others reject it altogether, is demonstrated by daily observation; for it is observed that no evils befall those who make no use of the binder, but leave the abdomen perfectly free: they pass through the puerperal state without the least untoward circumstance. Why should we resort to a method from which, as Dionis observes, there proceeds more mischief than good? In order to avoid deliquium and syncope, it is only necessary that the woman, as soon as she is confined, should preserve a horizontal posture; and if, unexpectedly, or by accident, deliquium should occur, certainly we ought to make use of remedies equal to the removal of the evil, and prompt in their action, and not trust to a mere bandage. If a woman should have an extraordinarily flaccid abdomen, it might certainly be advisable to contract it by a bandage made moderately tight, and kept so, for a few days.

"The second motive for recommending a bandage is, as expressed in § 282, to reduce the size of the abdomen of the puerperal woman. But experience shows that the restoration of its shape depends upon nature, and not upon any art whatever. The abdomen, as soon as it is relieved from its distension by the gravid uterus, recovers such form and size as it is susceptible of, under the contraction of its muscles and teguments: it would not, certainly, be susceptible of a corrugation beyond the natural degree, by any restraint afforded by a linen bandage. How true this is, may be observed in many women, who, after repeated labors, find the abdomen relaxed and flaccid, notwithstanding their extravagant sacrifices to the dictates of fashion in dress. They look to the physician for this happy restoration; they suppose that he, by means of his bandage, ought to restore the abdomen to its primitive condition; never reflecting, that they wear their corsets without obtaining the least advantage; and that the support they require for too flaccid an abdomen is to be obtained only from the ordinary corsets and busks, which they can tighten at will, and to which they can give any form, adapted to their necessities or caprices." Professor Asdrubali concludes his article with a considerable quotation from Lemoine, which I shall not cite to you for the present.

I have already, in a former letter, offered you some remarks upon the use of the bandage, as a means of suppressing the tendency of the uterus to expand soon after labor, and receive, and contain the products of what is called a concealed hemorrhage, for which I refer you to Letter XL. I likewise expressed the opinion that certain women, after sudden deliveries, having had the womb enormously distended before, suffer from violent lipothymia and deliquium for want of some abdominal tension, or for want of a bandage. For such exigencies, I hold the bandage to be laudable, and the use of it not to be pretermitted; but as for the rest, I here fully give my approbation to the sensible, reasonable remarks of Professor Asdrubali. It is very probable that much of the prevalence of prolapsus uteri in this country is due to the improper use of the binder. Pray attend to this point.

There is one point in the management of women newly delivered to which I must now advert. It is a very common occurrence to find the woman recently put to bed, affected with retention of urine: the occurrence is so common, that it is a rule of duty in the physician who has charge of the case to make inquiry into the matter. It cannot but be inconvenient, and not a little dangerous, to allow the products of the renal secretion to accumulate in the bladder to a great amount. But that organ has been so much distressed, so much compressed, and, perhaps, so much contused in the transit of the fœtus through the pelvis,

that it must be, and, in fact, it is an exceedingly trite occurrence to find the woman allowing from thirty to forty ounces of fluid to accumulate in the bladder of urine. This puts the cystic tissue dangerously on the stretch, compressing the uterus and thrusting it too far backwards, or even overturning it; exciting pain, urinary and rectal tenesmus, and fever, which it would be easy to guard against by a simple precaution. It is considered by accoucheurs, therefore, an invariable point of duty to inquire, within a few hours after the birth of the child, whether the bladder of urine has been relieved.

If you, who read this letter, be not, and do not intend to become an accoucheur, you might nevertheless adopt the custom of the accoucheur in such cases. An accoucheur would not think, I suppose, of giving medicine to provoke a discharge of the urine in such a case An accoucheur does not like his patient to be disturbed by a dose of physic, or even by a common aperient enema, in the first two days at least of the lying-in. He knows that drugs are of no avail for this kind of retention, and he resorts at once to a remedy which cannot fail, which is not inconvenient, and in nowise painful: I mean the introduction of the catheter. If the woman should not be relieved in the course of from eight to twelve hours, the catheter should be introduced, and so on from day to day, until the power of the urinary organ be quite re-established.

I pray you remember, that you might make a false diagnosis in the matter, if you be not careful. I have seen this false diagnosis made a hundred times by the nurses and by patients themselves; they supposing the distress to arise from what is called after-pains, while, in fact, it depended solely upon retention of urine and extraordinary distension of the bladder of urine. If, for a woman complaining of after-pains, you should explore the case, by pressing your hand upon the hypogastrium, and find there a well-defined, resisting, orbicular mass, nothing would be easier than to mistake it for the uterus. Sometimes I have had a difficulty in making the discrimination, by trusting merely to my sense of touch. The difficulty of diagnosis has vanished from me always, however, upon ascertaining—first, that the woman has had no urinary evacuation for a number of hours; and, secondly, by saying to her, "Listen to me; attend. I am pressing my hand upon a lump which I find here at the lower part of the stomach. I am going to press harder, in order to give you some increase of pain. Please give your attention to the sort of pain which I shall produce;—and tell me whether or not the pain you now feel may be truly called a urinary pain. Is it a pain to make water?"

"Yes, sir, it is!"

"Very well.—I understand the case now."

After such an answer, a doctor would be very stupid if he should not propose the use of the catheter.

After severe labors, the bladder is occasionally found to refuse to resume its function of expelling the urine for three, eight, ten, and sometimes fifteen or twenty days. As long as it refuses to do its duty, the medical man should remove the urine twice a day, or, what is far better, leave a proper catheter in the hands of the patient; first instructing her to apply it for her own relief. There are many persons who can be trusted to do this little operation themselves, which is a saving both to their own feelings and those of the medical attendant, for there is scarcely a more disagreeable operation to be performed than that of catheterism of the female; an operation which, I should think, every gentleman would be glad to commit to other hands than his own. It does no mischief, I suppose, in such cases, to give a little sweet spirits of nitre; to give a little weak solution of nitre; to allow your patient to take infusion of watermelon seed; of parsley root, of horseradish, or of juniper berries; which do little harm, and less good. If the patient will have a placebo, let her have the most innoxious one you can devise. After all, there is nothing for retention of urine like a good catheter.

It is not good practice to excite perturbations in the economy of a woman who has just gone through the pain and excitement of a labor. Such a person requires a long and profound repose of the organs and organisms, as well as of the spirit itself; for which all sorts of complacencies ought to be provided. A dose of cathartic medicine, administered within twenty-four hours, is sufficient, in some instances, to call up movements, whether nervous or vascular, that it would be far wiser to leave uncalled. Wake not the sleeping lion! Attacks of engorgement and inflammation have, I am sure, followed the intempestive exhibition of purgative medicines by imprudent and presuming nurses. It is time enough, under all ordinary circumstances, to cause the bowels to be moved once or twice, after the lapse of from sixty to seventy-two hours; and the woman ought not to be disturbed with any kind of physic for at least this length of time after her delivery. When the time does arrive for giving some medicine, an aperient ought to be selected, and not a purgative. The patient is not sick; she does not want physic; her bowels are lazy, and merely require to be roused a little; the woman ought to have one or two alvine dejections, and not more, unless she be really sick. To procure this desirable end, pray select some article that you can depend upon. Can you depend upon magnesia, or upon the common combination of magnesia and Epsom salt? No. A dose of magnesia will operate either not at all, or once, or

eight or ten times. Will senna or rhubarb answer your purpose? Unfaithfully; because they bring on purging, if you give a sufficient dose; and if you give a moderate dose, you will be disappointed in the operation. What is the medicine that does not disappoint you? Castor oil. The dose of this medicine ought to be, as a medium, about half a tablespoonful. In ten cases of women just confined, a dessertspoonful of castor oil will be sufficient for nine of them, and the tenth one can repeat it after five or six hours, if she chooses. I advise you to follow this method; and I confidently advise you in this way, because "*haud inexpertus loquor.*" Neither my friend Dr. Samuel Jackson, nor I, would consent to give a woman a tablespoonful of castor oil under such circumstances, because we know that half a tablespoonful is a better dose for her. Dr. Jackson is a good authority in matters of therapeutics. I wish there were more like him in the country.

The diet of the woman is worthy of some consideration: many women are left by labor with their bloodvessels in a state of convulsion, so to speak; the tempest and whirlwind of their passion do not subside, for many of them at least, for hours after the provoking cause has been taken away.

If the woman has not lost a great quantity of blood by the detachment of the placenta; or if the lochial discharge should prove to be not very abundant, the materials for development left within her bloodvessels ought not to be deemed to require much refection for two or three days. She is about to have a new cause of constitutional disturbance set up within her: both the mammary glands are destined to sudden, I was going to say, bursting development. They are both about to become suddenly instinct with life; an operation attended, in the majority of cases, if not with fever, at least with a quasi febrile paroxysm.

These considerations render it expedient that her diet should consist of very light, digestible, and sufficiently nutritious materials. I presume that in different parts of the country there are different modes of treating the lying-in woman as to her diet; but as for us in Philadelphia, a time-honored custom which is universally adhered to, commands the nurse to provide for her patient a diet of gruel made with oatmeal. Many of the nurses boil it into a thick porridge, and give it to the patient sweetened with sugar, after having made a very slender addition of salt; it is deemed aperient, agreeable to the patient, and satisfies well the cravings of the stomach.

The woman is also allowed a cup of tea, and some dry toast or baked rusks; or any simple preparation of bread. Tea and toast, oatmeal gruel and cold water are a lying-in woman's allowance until after the

milk comes, in Philadelphia. Hot tiff, or brandy and water; soups, meats, eggs; all animal substances ought to be proscribed.

As to the diet of oatmeal gruel, I have on many occasions observed that women taking oatmeal gruel have become tympanitic; and that it is a less wholesome food than is generally supposed. You will be amused if not instructed by the following paragraph from Rainald's *Byrth of Mankynde*:—

"And here it is worthy to be noted, that whereas it is a common usage to geve often to women in theyr chyld-bed cawdels of otemele, thynking and saying therby the woman to be scoured: whereas in deede the sayde otemele is a notable bynder and dryer; therefore ye shall understand that the ryght use therof is to geve it to such as have alreadye ben well and sufficiently scoured and clensed from their birth, and other thynges to be looked for in this tyme and case; but if the woman be not sufficiently purged already, then give her no otemele cawdels, ne other thynges that may bynde."

I have said above that all animal substances ought to be proscribed for the woman recently delivered. I ought to qualify this statement for the cases in which great debility might seem to demand a more generous diet.

The good old author whom I have just now evoked from his grave that he might speak to you about *otemele cawdel*, was far more liberal than the moderns in his allowance of food to women in travail. At the 70th page, speaking of cases of retained placenta, he saith:—

"If retention of it comes by weakenes of the labourer, through long trauyle, then must she be recomforted and strengthed with good comfortable meates and drinkes, whiche may ENHART her, as broath made of the yolcke of egges, or with good olde wyne, and good fat and tidie fleshe of byrdes, hennes flesh, capons, partrige, pigins and such like."

I hope you will sometimes remember and perpend the good fat "tidie fleshe, byrdes, hennes fleshe, pigins, and so forth," that might have been the happy allotment of Queen Catharine Parr had her hopes of a baby not been doomed to a sad disappointment, at the time when her pregnancy, like Mrs. Commodore Trunnion's, *tenues in auras evadebat*.

Pray never forget that excellent old English parlance of his, nor forget to *enhart* her when your patient has come too low after her wasting hemorrhages, or exhausting efforts in childbearing.

A woman ought to keep her bed for the first nine or ten days after her accouchement: if she gets up, the womb descends lower into the excavation than the place it ought to occupy. The womb will get well, notwithstanding such imprudence; but the vagina may be ruined, and

the woman's health may be forever after disturbed by a prolapsion, which always coincides with a shortening of the vagina. Prolapsus uteri means, and is nothing else than shortening of the vagina; and you have nothing to cure in prolapsus uteri but a shortening of the vagina; and when it is cured, the woman is cured, and you have nothing else to do with it.

There is another motive why a woman should not soon get up, arising from her extraordinary nervous susceptibility after labor. She may take cold; she may be seized with a rigor; and the rigor may give her an attack of weed in the breast; or the force of the reaction may fall upon the womb, or upon the peritoneum; so that she shall pay for her imprudent early rising with a mammary abscess, or by loss of her life in a childbed fever. I verily believe that one-half of the vexations I have experienced in the course of my life, from such occurrences, have been the fruit of untimely, imprudent exposure as to diet, or as to too early rising from the bed. I tell my young lady-patients that if they keep the bed until they are cured, childbearing will not make them break—as it is called. A squaw with two pappooses is nothing but a squaw. She might have been a very pretty woman still, if she had had a good nurse, and kept her bed until after the ninth day. She who gets up too soon will have wrinkles, and grow sallow and ugly before she is twenty-five.

After the ninth day has elapsed, if nothing has happened, the woman may be taken up for an hour in the morning, and again as long in the afternoon; prolonging from day to day her leave of absence from the couch, until her strength being gradually restored, there shall seem no longer need for any restriction whatever.

I shall refrain from offering remarks here on the coming of the milk, and the management of the breast, as I intend to devote a separate letter to that consideration.

As to riding out, it will depend upon the state of the patient's health; it is well, however, to have a rule. My rule is to say, you may ride out on the twenty-first day, if you be well enough, and the weather be inviting. An hour's ride is long enough for the first sortie. But, if the lochia are not gone, it is better to stay at home.

No woman ought to consider herself recovered from the effects of her accouchement until after the lapse of an entire month. The Jews, who inhabited a very warm climate, were considered, by their Lawgiver, unclean for forty days after the birth of the child. Christian women are purified in thirty days, and I am afraid that some of them think themselves so earlier than that. I wish that the brethren could lend their influence to reinstate the Mosaic doctrine on this point. But some

people will not believe Moses nor the prophets either; nor would they believe, though one should rise from the dead to tell them, they are not well, if they but feel well.

Pregnant women ought not to be vaccinated. This is a rule that I advise you not to depart from even on the most urgent occasion. If a woman have been once vaccinated, and appeal to you to revaccinate her because there is a present variolous epidemic, I hope you will refuse to accede to her request. Smallpox is exceedingly and peculiarly pernicious to pregnant women. She who has it, and miscarries—or who is brought to bed at term, generally dies. It is, in my opinion, inexcusable to expose her to so great a risk—a risk far greater than that from accidental contagion, or that of the epidemy. But the vaccine is identical with the variolous animal poison, saving some lessened intensity of its malignant form derived from its having been modified by the nature of another mammal. To inoculate a cow with smallpox virus, is to give her the vaccine disease, with the lymph of which you can vaccinate, but cannot reproduce unmodified smallpox. Keep your pregnant patients clear of smallpox in all its forms, whether modified or unmodified. Do not vaccinate them. I have been the witness of dreadful distress from the operation. Eschew it, I entreat you.

C. D. M.

LETTER XLII.

PUERPERAL FEVER.

Gentlemen: There is a "word of fear" that I shall pronounce when I utter the name of Puerperal fever; for there is almost no acute disease that is more terrible than this—even smallpox, which reduces the fairest form of humanity to a mass of breathing corruption, cannot be looked upon with greater awe.

Childbed fever, like an inexorable Atropos, cuts the thread of life for those to whom Clotho and Lachesis would give the longest span.

There is something so touching in the death of a woman who has recently given birth to her child; something so mournful in the disappointment of cherished hopes; something so pitiful in the deserted condition of the new-born helpless creature, forever deprived of those tender cares and caresses that are necessary for it—that the hardest heart is sensible to the catastrophe. It is a sort of desecration for an

accouchée to die. Pliny, in his letter xxi. lib. iv., speaking of two sisters of Helvidius who each died in childbed, says: "Ita mihi luctuosum videtur, quod puellas honestissimas in flore primo fœcunditas abstulit. Angor infantium sorte, quæ sunt parentibus statim et dum nascuntur, orbatæ. Angor optimorum maritorum, angor etiam meo nomine."

The disease in question acquires, from its liability to assume the character of a devastating epidemic, an importance far greater than would appertain to it, were it limited to the occasional fatalities of its sporadic or accidental forms—inasmuch as when it does prevail as an epidemic, it sometimes ranges over a great extent of country, or throughout certain districts, and lays not aside its destroying wrath, not for weeks only, or months, but even for a series of years; carrying in its train fear, expectation of death, and the overthrow and desolation of the domestic altar for hundreds of families.

The maladies comprised under the denomination of puerperal fever are several in number, and are so insidious in their approach, so sudden and violent in the attack, so rapid in their progress, and so dangerous always, and the fatal boundaries not unfrequently so far overpassed before assistance is sought for from the hands of the physician, or danger even suspected, that it is clearly your duty to make yourselves accurately acquainted with their nature and treatment. Puerperal fever, or childbed fever, as it is also called, is a disorder very apt to mislead you, to confound your judgment, to terrify and drive you from the path of your therapeutical duty in the case, or tempt you to the commission of the greatest errors in the conduct of it. I shall, therefore, in the present letter, endeavor to lay before you such views upon the subject as I have been able to obtain from no little clinical observation of cases, from reflection upon what I have myself seen, and from conversation and reading. I should deeply regret to hear that any one of you, after beginning to attain to some degree of success in the practice of your Art, should have the misfortune to encounter an epidemic of this sort, for I am sure the troubles it would bring upon you, if not fully prepared and armed with a true knowledge of your duty, might well lead you to think it were happier for you had you never been born. I shall, therefore, try to tell you the whole truth about it.

This I shall do, not as arrogating to myself a degree of knowledge and discrimination superior to those of other men and brethren of mine, but as feeling that I have a solemn duty to discharge towards you, as your teacher, as well as towards the public, who are to be advantaged or injured by your conduct as physicians towards those who may have the misfortune to suffer these terrible maladies.

Puerperal fever, denominated, by the public, Childbed fever, is also called Peritoneal fever, Puerperal peritonitis, Metritis, Metro-peritonitis, Uterine phlebitis, and lastly, Pyogenic fever: it is a disease consisting of inflammation of the serous coat of the abdomen, or of some portion of it—inflammation of the ovaries—one or both of them; of the womb, with or without coincident inflammation of the peritoneum; of the veins of the womb; or of the absorbent vessels of that organ. If this is a true statement of its nature, it is clear that the disease is *not* a *fever*, but a phlegmasia, and that the fever is an accident, and not the essential disease.

It is probable that a major part of the cases consist of serous inflammation only—cases in which the sub-serous textures have little participation in the inflammatory modifications of the peritoneum proper.

Many of these very samples of peritonitis, however, coincide with violent inflammation of one or both of the ovaria—of the ligamenta lata, and of the internal superficial tissues of the pelvis.

In pure samples of metritis—or uterine phlebitis, the inflammatory modification of the tissues may not, on the one hand, or on the other may extend to, and involve the serous lining of the womb, and spread far and wide throughout the various folds and reflections of the whole peritoneum. You will find in a subsequent page that Tonnellé has shown how often the malady assumes the form of uterine phlebitis, he having found pus in the veins of 90 out of 224 cases he dissected.

You might be disposed to ask why it is that a function so natural as that of parturition should be followed by this disastrous disease. Leaving out of consideration the nature of the recondite causes that operate upon the economy to develop the various puerperal inflammations, such as an epidemic or an endemial influence; or a poison conveyed in the clothing or persons of physicians and nurses, one would seem to perceive sufficient provocatives to the attack of inflammation, in the state of any parturient woman's constitution, and in the events of the labor by which she may have been brought to bed. Indeed, there is room for surprise, that the examples of violent inflammation of the tissues concerned in parturition are not far more numerous than they are in fact found to be.

It is always rare to let blood for a patient pregnant and nigh to her term, without discovering the proofs of an inflammatory tendency, in the sizy and cupped appearance of the blood, when left awhile to rest. I beg you to take notice, in your future practice, of this point. But if the blood be sizy in nearly all pregnant women, then all such women are, to say the least, in a state of proneness to inflammatory attacks—since that siziness of the blood indicates an excessive predomi-

nance of the fibrinous element. Allow me here to repeat, that in 1,000 grains of healthy blood, there should be found not more than 3.5 of fibrin—but, if you bleed a pregnant female far advanced in the gestation, you will discover size enough in the coagulum to lead to the supposition that instead of 3.5 there must be not less than .10, or perhaps .15 of the plastic material.

Pregnancy, for most women, is carried on at the cost of an exalted general vital force—for many of them, the latter weeks of gestation are weeks of feverishness; and when, upon such a basis of dyscrasy of the blood as I have above mentioned, we come to superadd all the sanguine and nervous exaltations of the conflict of labor, which is usually attended with greatly increased action of the heart and arteries, we may well believe that the blood is generally left in a highly pathological condition after the delivery.

The nervous system, too, in most cases of hard labor, becomes exhausted, and is rendered thereby extremely impressionable by all morbific causes: all the causes of inflammation must act with redoubled intensity upon it; and inflammation, once begun, may, with difficulty only, be prevented from extending far and wide beyond its radiating point.

As to the serous lining of the abdomen, there is scarcely any portion of it that is not affected, in pregnancy, either by the vast extension of the peritoneal superficies of the womb and the abdominal integuments, or by the pressure effected upon them.

The birth of the child takes off this pressure—leaves much of the peritoneum in a state of relaxation or flaccidity—and thus brings it into an atonic condition, inviting the approach and onset of disease.

The repeated, protracted, and vehement contractions of the abdominal muscles cannot but have a tendency to effect contusions in the opposite peritoneal surfaces that are so violently jammed or ground together during the labor throes; while the lower portions of the membrane or the cervical portion of the uterus, containing within it the fœtal presentation, are thrust with an incalculable force down below the plane of the superior strait, and oftentimes held for hours against some part of the osseous structure of the pelvis; so that one is amazed to find these tissues escaping wholly from disease, when it was so probable they could not escape absolute destruction.

Consider also the state of the textures composing the womb itself; and reflecting that the power of the womb is resident only in its muscular fibres—see what and how great must be the mechanical violence done to the remaining elementary structures of the organ during the protracted and agonizing contractions of those muscles—contractions

that seem, in some instances, to make every sensitive cord feel the violence that is directed and occasioned by the motor cords.

The labor, too, is not the end of the scene, for the womb and the vagina, with their whole cortège of arteries, veins, capillaries, nerves, and absorbents, as well as the muscles and cellular tela, are passing, during forty days after the birth, back again into the non-gravid state; a transition-period, full of hazard, and open to the attack of inflammation.

There are new determinations of blood to be established. The torrents that have poured for months, and in increasing volumes, along the uterine and spermatic branches, are suddenly cut off in a measure by the closure or quasi obliteration of their accustomed channels; and great veins and sinuses, as big as a little finger, must allow their walls to collapse, compelling their endangium to re-enter the state of non-gravid abeyance from which the pregnancy had forced them to issue.

Upon the interior surface of the uterus is left the cotyledynous superficies, with the patulous orifices of the lochial vessels that were uncovered by the detachment of the placenta. Those mouths are often bathed with fluids of the most putrid and offensive and even acrid character, provoking inflammatory exaltation in the capillary and nervous textures, and the endangial tissue of the veins.

Finally, the new life-force in the breasts must begin; and the firm tension of the mammary glands, and galactophorous tubes develops fever, which is akin to inflammation.

In addition to all the causes above enumerated, it is proper to take into consideration the state of the skin. There are few women who go through a labor without violent perspiration, which issues from the head and thorax, and flows in copious streams. Such a condition of the cutaneous exhalants leaves the delicate vascular and nervous apparatus of the skin in a highly susceptible or impressionable attitude, so that cold and damp operate with peculiar intensity in causing disease.

There are, besides, many labors that are interfered with by the officious intermeddling practitioner, whether male or female, who happens not to have been well instructed in the duties of the obstetrician. Instruments are not unfrequent causes of contusion, as well as of laceration of greater or less moment; so that multitudinous provocatives and causes of disease are to be discovered, even in the most simple healthful case of parturition.

There are, moreover, epidemic causes of puerperal fever. I cannot tell you what is an epidemic cause, since it is uncognoscible, recondite, and beyond the scope of the human understanding. We can know that it exists, and we can witness the efficacy of its awful causation, in the

frightful devastation of hospitals, towns, villages, and even large and extensive districts of country.

Dr. Sydenham showed long ago that a constitution of the atmosphere may exert modifying influences upon the nature of diseases, and that, as the constitution changes from time to time, so will the characteristic qualities of any disease undergo conformable modifications from year to year. He showed that there may reign influences to render prevailing maladies either synochous or typhous, so that the fiercest attack of pleuritis shall participate in the nature of the most atonic form of the typhus fever, and that, upon some unknown or some meteorological mutation of the qualities of the ambient air, the serous inflammations shall recover all their activity and redhot intenseness.

No eudiometrical researches have hitherto succeeded in wresting from nature her direful secret as to the essence of epidemic causation. The poisonous exhalations from the bogs of the Valteline, or the marshes of the Campagna, in the eudiometer betray no combinations of the air different from those that rest on the pinnacle of the Shreckhorn, or the Faulhorn; no additional infusion of carbonic acid, no supersaturation of oxygen, nor excessive nitrogenous dilution. Hypotheses and conjectures, however specious and plausible, are all that we have to rest upon in the arduous and anxious exploration.

In the case of the confessedly contagious disorders, we seem to come at something like approximation to the truth. We can, in the case of smallpox, visibly and palpably demonstrate, if not the essence of the contagion, at least the contagious virus or material in which it exists. We can take it from one, and transfer it a thousand leagues to another, and plant, as it were, its seeds to spring up like a vast Upas, overshadowing with its arms of death the whole area of a city or a county.

Perhaps there are other maladies, as scarlatina, rubeola, pertussis, &c., that may be placed in the same category of contagious power. Yet, if we be compelled to admit that they are propagated by contagious force, we cannot deny that they are also extended among a population by epidemic causations. Willis, in his *Tractatus de Febribus*, in some observations on contagious and epidemic smallpox, discourses very sensibly where he says, Peculiaris quædam aeris dispositio variolas insigniter producit; hinc sæpissime popularis evadit, ac per totas regiones, urbes, vicosque passim desævit; hinc etiam vere et autumno crebrior existit, &c. How are we to explain this epidemical power of a purely contagious malady, if we deny that there is a means of its evolution, utterly independent of all personal sources of its production? Is it to be believed that a material so subtle as that which causes smallpox, and which is undeniably produced by the living body—which is peculiar—

producing one, and only one form of diseased action—can we reasonably suppose that it has many various sources of its origin? We are bound to conclude that epidemical influences may tend to favor the production of the material in living bodies, not that they cause its evolution in other sources.

In the great example, the Asiatic Cholera, we have seen that the epidemic causation has risen into activity in various latitudes and longitudes of the globe, commencing in the Delta of the Ganges, and spreading eastward to China, and westward to Persia; northward, to the shores of the Caspian at Astracan, and to those of the Mediterranean, at Latakie; ascending the Russian rivers to Moscow, and then invading Western and Southern Europe, and the countries of both North and South America.

In the disastrous spread of this great epidemic, which has probably cut short the span of life for more than fifty-five millions of our race, how many thousands of the *strongest proofs* have been observed of its contagious power, and yet it is probably not more contagious than rheumatism, or gout, or ordinary ague and fever.

As to the contagiousness of smallpox, I cannot deny it, since I cannot deny the contagiousness of any inoculable malady. But the contagious nature of puerperal fever, though asserted by so many of the brethren, entitled to my respect for their learning, judgment, and humanity, I cannot for a moment admit. Its epidemic or its accidental origin is for me a sufficient explanation of all the asserted examples of its communication by direct contagion.

Sydenham, as I have said, made us acquainted more exactly with the important fact that changes occur in what he calls the constitution of the air, by which he means certain unexplained cosmic forces or principles present in the air, and capable of modifying the intenseness of our vital sensibility and irritability. Those same influences exerted in space, whether vast or minute, may serve to explain how it happens that in a district of country where a case of puerperal fever had been unknown in the memory of the oldest inhabitant, a major part of the puerperal women shall, for a series of months or years, become the subjects, and many the victims of it. An epidemic influence, be it what it may, can place the constitution in a predicament that renders it prone to be affected by the inflammations that I have, in the beginning of this letter, denominated the textural lesions of our disease; and to the end of conceiving of such epidemical influence, it is not necessary to imagine any fermentative, sporiferous or ovular element of propagation, nor any poisonous exhalation, material, or gas escaping from substances in putrefaction—since the smallest change in the atmospherical mixt, or constitution, can give

the utmost vigor to the vital forces, or take them away, or reduce them to the minimum of power. It is, in my opinion, not to be reasonably denied, however, that telluric emanations, or modifications of the atmospheric mixt may take place in regions of country more or less vast, and that such alterations may produce more or less disturbance of the public health.

The gigantic ferns that lie buried beneath the ruins of the antediluvian world, and the inexhaustible deposits of carbon in the coal fields and in some of the rocky strata, have been presented by the geologist as proofs of a former different combination or mixture of the atmosphere, as to its carbonaceous portion. But, if the geologist has a real foundation for such an hypothesis, we shall not do violence to the spirit of philosophy in supposing that atmospheric combinations and mixtures, excluding the idea of poisons, may reign in hospitals, cities, counties, districts or states, to the production of epidemic maladies.

If a disease be contagious, it must be so by virtue of a material, or essence produced in and evolved from the person of an individual; and it is averred that A and B may propagate that cause from house to house, while C, D, and E are admitted to have no such power of transmission. A physician has even been called a walking pestilence, because he has met with numerous examples of puerperal fever in his practice, while his brethren have had no such trying occurrences to lament. He has been tracked, it is said, by the victims of a contagion transmitted by his person. And it is quite true that we occasionally meet with inexplicable instances of the existence of the disease among the patients of a single practitioner, or of two or more medical people of a city or village, while the other brethren who continue their practice in obstetricy encounter no untoward lying-in cases. It is a matter of great moment to determine the question of the contagion, or the non-contagiousness of puerperal fever. But it is a subject most difficult to investigate, and like the question of the contagiousness of plague, of cholera Asiatica, of yellow fever, likely long to remain unsettled, after useless discussions and inquiries. It would, perhaps, be wrong to say useless, since such inquiries lead, in the long run, to the establishment of the truth. But, how shall we settle it? Certainly not by proving that I happen to encounter fifty or a hundred cases of puerperal fever among my patients, while my neighbor who has a larger practice than I, meets with no examples of the kind in the course of his business.

Having practised midwifery a great many years, and having been concerned in the visitation of the sick laboring under puerperal fever, whether sporadic or epidemic—visiting the same cases with those who have so cruelly been abused, as performing the part of a walking pesti-

lence, and scattering death and desolation where they desired only to do good—and seeing that I could never convict myself of being the means of spreading the contagion, I remain incredulous as to the contagiousness of the malady. I have gone from the dissection of the bodies of women dying at the hospital or in private practice with symptoms of the most violent puerperal peritonitis prevailing epidemically there, and have never communicated it to those whom I soon afterwards delivered in their labors. I have visited the patients of those, among whose patients the disease seemed to extend because *they* were the attending physicians, yet I did not convey the malady into *my own* clinical practice, while they were loudly accused of so doing.

One of these gentlemen has had the kindness to furnish me with a note, in which he relates that he has carefully examined his memoranda of cases of puerperal fever, and finds the whole number that he attended amounted to ninety-five, of which there occurred—

In 1841, ...	3
" 1842, ...	9
" 1843, ...	45
" 1844, ...	25
" 1845, ...	6
" 1846, ...	7

making in all, ninety-five. The first case was on the 6th of September, 1841, and the last on the 6th of June, 1846. Seventy-seven recovered, and eighteen of the cases terminated fatally; of which, two were cases of twins, and three were cases of presentation of the arm. In eight of the cases, the child was born before the gentleman entered the chamber; and in four the delivery of the placenta had taken place previous to his arrival.

Dr. Rutter, of this city, to whom I am obliged for the note in question, was engaged at that time in a most laborious midwifery practice; a practice for which he is eminently qualified, by his knowledge, skill, and temper. The result of his practice during a disastrous epidemic might be taken as proof of his ability, for he lost only eighteen out of ninety-five patients, or one in five and a half; and that, in a class of cases that were characterized by the utmost intensity of violence, as I can bear witness, having seen some of them along with him. During the prevalence of the same epidemic at the Dublin Lying-in Hospital, while the distinguished Dr. Robert Collins was Master of the hospital, eighty-eight cases occurred. Of these eighty-eight cases, fifty-six proved fatal, which is equal to the loss of two out of every three cases, and that, too, under the watchful care of the most scrupulous and conscientious assistants, directed by a person of such high medical ability.

Gordon, up to the time of changing his mode of treatment, lost one in two of his patients; and the younger Hey, of Leeds, had a success not so good as this, until after he had discovered the Gordonian theory of the treatment of puerperal fever; for up to that time, he lost eight out of ten.

My friend Dr. Rutter informs me, that to one of the cases, he was summoned on the night of his return to the city, after an absence from it of ten days, at a distance of thirty-five miles. Previous to visiting the patient, he entered a warm bath, had his head shaved, put on a new wig, new hat, new boots, took a new handkerchief, and every article of his dress was bought new for the occasion; leaving at home even his watch and pencil, and taking care, after the bath, not to touch a single article of the clothing he had previously worn. The patient whom he attended was immediately seized with the symptoms of puerperal fever. I was called to see her along with him, and attended her up to the period of her death, which took place on the eleventh day after the birth of the child.

Two years later, in 1846, he resorted to the same precautionary means, before taking charge of the case, which being seized with the disease, likewise terminated fatally.

Eleven of the children born in the ninety-five births died with erysipelas, commencing at the umbilicus, after the mother had succumbed to the malady; and four others perished in the same way, while the mother recovered from the attack.

If the malady, which many of my brethren in this city supposed to have been propagated by the gentleman in question, had really been transmitted through his person, how shall we account for its attacking those women whose labor terminated previous to his arrival; or how shall we explain the exemption not only of many of his own patients, but of mine also, and those of other physicians called by him in consultation, from the influence of a contagion so direful. Would it not be more philosophical to say that one of those strange fatalities that are often found to occur, had brought *him* into contact with the cases of women ill, whereas his neighbors and fellow-practitioners, more fortunate than he, met only with the ordinary phenomena accompanying the lying-in state.

I shall now relate a case that ought, I think, to convince you of the injustice of accusing an individual of so terrible a power as that of poisoning, by his presence or infectious contact, the bodies of patients intrusted to his care.

A gentleman, a friend of mine here, who, during the prevalence of the same epidemic above referred to, unfortunately met with numerous

violent and fatal cases, was also supposed by many persons to have carried the poison about his person. On one occasion, he invited me to see an individual laboring under the malady, in the district of Kensington. She was moribund at the time of my visit; and while deploring the event, he pointed out to me a house at no great distance, in which he was about losing a patient laboring under the same malady. He informed me that the person in question, whom he was accustomed to attend in her confinements, had engaged him to be present at her expected accouchement; but having been rendered anxious by the late sad events of his practice, and hearing nothing from her at the time proposed, he had called at her door to ask after her health. He was informed that she had been confined two days previously, but so suddenly, and with so little difficulty, that they had not thought it necessary to notify him, or give him the trouble to call. He was told she was now indisposed, and invited to see her; whereupon he entered her chamber, and found that the case, one of puerperal fever, had gone beyond the curable stages. So that she must be added to the catalogue of the victims of *this walking pestilence.* You see how unjust it is, in making up the list of fatalities in the doctor's practice in the epidemic, to put down such a case as this among the victims of contagion. When did she take the poison? Where did his other patients find it?

Does the doctor generate and distil the poison, or merely transfer it. If he transfers it, why don't I also diffuse it?—we are equally men, equally clothed. No, gentlemen, you do not carry the poison; you are merely unhappy in meeting with such accidents through God's providence.

Dr. Collins, at page 387 of *The Practical Treatise on Midwifery*, informs us that in 1829, when he was Master of the Dublin Lying-in Hospital, puerperal fever, which, for several months previous had prevailed there, increased much in intensity. Upon consulting with the medical committee, it was recommended that no patient, except the absolutely destitute, be admitted; but that assistance be afforded at their own homes. He then had all the wards, in rotation, filled with very condensed chlorine gas for forty-eight hours; the windows and all openings being carefully closed. The floor and wood work were then covered with chloride of lime of the consistence of cream, left on forty-eight hours; after this, the wood work was painted, and the walls and ceiling washed with fresh lime. The blankets, &c. were scoured, and all stoved in a temperature of from 120° to 130°. From this time until the termination of his Mastership, in November 1833—that is, a period of fifty-seven months—he did not lose a single patient by the disease.

These facts are strongly calculated even to prove that the fever derived its origin from some local cause, and not from anything noxious in the atmosphere. To this, Dr. Collins says he should assent, was not the evidence equally strong of its existence in the houses of the rich.

The prize work by the younger Baudelocque, entitled *Traité de la Péritonite Puerpérale*, a work of the greatest value, contains, at page 127, Dr. Baudelocque's observations of the subject of the contagiousness of the malady. He speaks of the difficulty of discriminating the epidemic from the contagious character of a disease, which is as true of epidemic puerperal fever as of any other epidemic; and thinks, in the present state of our knowledge, it is impossible to decide as to the contagiousness of our malady. But notwithstanding the sentiments of the English physicians, Joseph and John Clarke, he inclines to the opinion of the non-contagionists; and cites Mr. Dugés, who states that he has never known a case in which an *Elêve-sage-femme*, charged with the cases of women confined in the hospital, had carried the disease from a sick to a healthy woman: nor has he ever known the disease to be propagated from bed to bed in the ranges of wards appropriated to healthy women.

M. Baudelocque looks upon these facts as opposed to the doctrine of contagion, yet as not settling the question; and it would be presumptuous, he thinks, to affirm that there is no contagiousness; and that, disbelieving in contagion, he should nevertheless hold himself bound to act in any case as if contagion were possible.

Dr. Robert Lee, at page 492 of his *Lectures on the Theory and Practice of Midwifery*, expresses the opinion that it is our duty to act, in all cases, as if the contagious nature of the disease had been completely demonstrated. You ought to read Dr. Lee's thirty-ninth lecture, beginning at page 487, which is an excellent examination of the causes of inflammation of the uterus and its appendages in puerperal women. While I fear that the cases he has recited may tend to establish in your mind the doctrine of the contagiousness of the malady, I assure you nothing has yet served to convince me that it is transmitted by a physician or nurse; yet, notwithstanding such an opinion, I cannot wholly divest myself of an obligation to take the most especial care not to be the agent of its transmission, under the supposition that the contagionists possibly are right, and the non-contagionists possibly in error. It is an incontestable fact, whether the disease be contagious or not, that one midwifery practitioner is liable to meet with numerous cases in his practice, while his brethren, equally engaged in the same streets, villages, towns, or districts, shall meet with no cases at all. This was

remarkably proved in the epidemic at Aberdeen, the history of which is related by Alexander Gordon. Dr. Armstrong also tells us that forty out of fifty-three cases observed in Sunderland, occurred in the practice of one surgeon and his assistant.

Gordon looked upon it as contagious; and he considered that every person who had been with a patient in puerperal fever became imbued with an atmosphere of infection, which was communicated to such pregnant women as happened to come within its sphere.—*Vide*, page 51, of the Philadelphia ed., 1842.

If you insist upon it, that the cases, like those of my friend Dr. Rutter, and those referred to by Dr. Armstrong, were communicated by contagion, you will be compelled to say, that either the constitution or the clothing of one individual has some peculiarity which enables him to carry the fomites wherever he goes; while those of another person, apparently in the same state of health, and with a similar dress, is wholly incapable of transmitting it. This is a fact, and I conceive it to be an unanswerable one. I have proved it in my own case, over and over again, since I have gone from the houses of persons laboring under the most malignant forms of the disease, and from participating in necroscopic examinations, without carrying the malady with me.

If you should assert that a medical man may generate or receive the fomites of our disease in his own constitution, without being at the same time subject to any manifest signs of the malady himself, you will arrive at a conclusion quite as probable as that of the contagiousness of this, generally speaking, serous malady.

To the admission of its contagiousness, I find an insuperable objection in the serous character of the malady, since the contagious maladies are, all of them, either mucous or dermal affections. It is true that some of the cases of gangrenous metritis that we meet with affect the mucous surface of the womb, if it hath one, which is still a subject of dispute among authors. But even admitting that the cause of puerperal fever is to be communicated by contagion to the womb itself, you are to consider that metritis is only one of the several forms of puerperal fever, many of which occur without at all interesting the internal structure of the uterus. I am more inclined then every day to reject the doctrine of the contagiousness of these maladies; and to look upon the occurrences that have gone so far to establish, in some men's minds, the opinion of its personal transmissibility, as to be explained upon the doctrine of accidents. It is a fact, that accidents happen in groups: very frequently railroad accidents happen in groups; numerous accidents at saw-mills happen in groups; accidents or murders from

firearms occur in groups; fractures of the limbs occur in groups, without any known connection between places or the number of individuals who suffer or the occasions which bring about the results. An insuperable objection to admit the contagiousness seems to me to exist in the fact, that the *poison* can affect only the parturient, and yet that *poison*, if there be one, must be more active than smallpox, or arsenic, or nicotine—for in many of the cases it proves fatal in twenty-four hours, and not only so, but it acts without any period of incubation, some of the women being seized within four or six hours after the delivery. How can you reconcile this amazing virulence with the total innocuousness of the poison, as to doctors, nurses, children, and all other persons, save the parturient alone!

From all the foregoing, you will perceive, my young friends, that I assert my disbelief in the contagiousness of the various forms of disease that are grouped together under the title of puerperal or childbed fever; and you will have noticed at the same time that, notwithstanding my plenary assertion of this disbelief, I am not able to fly in the face of the assertions, and opinions, and sentiments of many of my medical brethren, worthy of my highest respect; so that, in fact, I do not feel at liberty to disobey their injunctions, as to taking all proper precautions against propagating by my person a malady so fatal in its nature. And I therefore most explicitly declare, and I beg you to bear in mind that I now make this declaration, that I think it will always be your duty, whether you may believe in the contagiousness or not, of a malady, to avoid, as far as it may be in your power, all occasion to transmit, if it can be transmitted, an epidemical or endemical disorder.

Perhaps you could not do better in a way to settle your doubts on this point than by stating the proposition as follows: Women in childbed are liable to several different diseases, that are alike known as childbed fever; and that, whether the disorder be simple peritonitis, metritis, metro-peritonitis, uterine phlebitis, &c. It is asserted that the diseases thus denominated are contagious, and that the nurse in attendance on one case may carry the contagion to a considerable distance, and communicate it to a second and a third woman whom she may visit and assist; and also that the physician in any one such case may convey it with him to the several patients whom he may attend.

Neither the nurse nor the physician is liable to be affected by the malady—nor can they convey it to the husband or mother or sister or child of the lying-in woman, nor to any other being than the lying-in woman.

The doctrine of the contagionist thus declares that none but a lying-in woman can be affected with the subtle poison or contagion; a dogma this,

which maintains that the lying-in woman is different in susceptibility from all other persons of the human race; whereas, all persons are undeniably liable to be attacked with peritonitis, and also with phlebitis.

If puerperal fever is the inflammatory disorder I have supposed, then to say that only a lying-in woman can be affected with the causes of this inflammation is, at most, to go very far in dogmatizing.

It has often been observed that cases of puerperal fever have been particularly rife at the same time that there has been a considerable prevalence of erysipelatous diseases; and you will often hear in conversation, and you will observe sometimes in your reading, that there is some connection asserted to exist between the nature of erysipelas and that of puerperal fever; and further, that there is an identity in the causes which produce them.

In the Lying-in wards of our Pennsylvania Hospital, where puerperal fever has been repeatedly prevalent, it has been noticed, that numerous individuals laboring under wounds, whether from accidents or from surgical operations, have at the same period of time been laboring under erysipelas; and it has become a sort of custom of the house to fear the outbreak of puerperal fever in our lying-in wards, whenever a remarkable rifeness of erysipelatous disease is observed in the Surgery. Nevertheless, it is absolutely true that erysipelas frequently prevails in the Surgery when there is no puerperal fever among the women confined in the establishment.

Erysipelas is a disease of the skin. I have no doubt that erysipelas is always an inflammation of the capillaries of the skin—it is always an endangitis; and although it is occasionally found to descend into the tissues lying beneath the skin, converting itself into what is called œdematous erysipelas, perpetrating the most direful mischief in the cellular and adipose structures there, it is essentially a dermal disease, and primarily can only affect the dermal structure. You might as well say that a woman has an iritis of her pylorus, which would be absolute nonsense, since no such tissue exists there, as to say that she has an erysipelas of the serous lining of her belly. It might be perfectly true that she has erysipelas of her vagina, or an erysipelas of the lining membrane of her womb—if she has one—a question still *sub judice*—because, a mucous tissue is nothing more or less than a true skin turned inwards: mucous textures and dermal are convertible terms; skin may be converted into mucous membrane, and mucous membrane may be converted into skin, in one instance by bathing it in fluids, in the other by exposing it to the drying influence of the atmosphere. You will find the proof of this in the cases of chronic prolapsus uteri, or inversion of the vagina, met with in practice.

There is not, and cannot be any identity between erysipelas, a dermal disease, and the deadly inflammation of the peritoneum observed in lying-in women; notwithstanding there may be some coincidence in the causes which, in the first case, render surgical patients liable to erysipelas, or in the other, lying-in women to attacks of childbed fever.

The fallacy in the case arises from this, that both erysipelas and peritoneal and pleuritic inflammation are membranous maladies, not in general extending beneath the subcutaneous and subserous textures; and people have supposed, because they are membranous maladies, and alike liable to spread along the surface of membranes, that they are alike erysipelatous. If you choose to say, gentlemen, that every disease that spreads far and wide over a membrane is erysipelatous, I have no objection to your calling it so. But I beg you to observe, that in that case the duty will devolve upon you of furnishing some new theory of the pathological lesions in our malady, which in some of the most deplorable instances exhibits no signs whatever of membranous disease, but proceeds to destroy the patient at once, by a process of sphacelation, or ramollissement of the newly-delivered uterus, reducing it, in the space of six-and-thirty or eight-and-forty hours, to a condition of softness so complete, that a man's finger may be thrust through it as through a pudding.

You had better say, therefore, that the disease is not erysipelatous; but that, when erysipelas is epidemic, or endemical, the persons who are to be confined ought to take special care of themselves, since any intemperies of the air giving a tendency to erysipelatous inflammation, exposes the accouchée to attacks of puerperal inflammation. This is not less true of the prevalence of typhus, of smallpox, or other great epidemic maladies, whose domination is so universal, that they compel all manner of diseases and diseased propensities to come beneath their sway.

At Aberdeen, in Scotland, there formerly lived a gentleman by the name of Alexander Gordon, whose name I have already mentioned in this letter, and who enjoyed an extensive practice there, and in the country round about, and was a man of distinguished ability, probity, and consideration.

Dr. Gordon encountered an epidemic of puerperal fever, in and about Aberdeen, in the end of December, 1789, which continued to prevail epidemically in that region until the month of October, 1792. In this epidemic, he attended seventy-seven persons, of whom there died twenty-eight, according to his Table, which you will find at page 36 of his book, entitled *A Treatise on the Epidemic Puerperal Fever of Aberdeen*, &c.

"It prevailed," he says, "principally among the lower classes of

women," and, on account of his public office, and his extensive practice of midwifery, most of the cases came under his care. The disease, at the time of its onset, was new and unknown at Aberdeen. Dr. Gordon was unacquainted with its real nature; and out of the first twenty persons that he attended, from December, 1789, to October, 1790, he lost eleven, more than one-half of the cases; because he treated those cases without energy, and without intelligence. Having been taught, by woful experience, the inadequacy of his method; and having enlightened his mind by the dissection of a few of the early victims, he adopted a more energetic practice, founded upon the substantial proofs of phlogistic action, revealed by the necroscopic inquiries.

Dr. Gordon's volume is a small, unobtrusive book, written without arrogance or pretension: it is a plain, round, unvarnished tale; being a history of his concern with the epidemic; and carries so convincing and truthful an air into every page and line, that I cannot imagine anything better fitted to impress the mind of the reader with the warm and intense convictions of the writer. Half a century has elapsed since it appeared, and it is always quoted or referred to in treatises on the same subject, and never loses its good and solid reputation. Every medical practitioner, whether accoucheur or not, ought to read it with care; and I am almost ready to say that its perusal is indispensable to a right understanding of the history, nature, and treatment of puerperal peritonitis—not that I intend to declare that Dr. Gordon's observations, whether therapeutical or necroscopical, were sufficient to make plain the whole nature of the malady; but that, if a man take up the modern books only, there will be, in his notions of the subject, a void as to its literary history, and the history of its treatment, that no other book than Gordon's can fill.

Whatever critics may please to say of Dr. Gordon's performance, however wofully they may have erred in their theory and practice in our malady, Gordon must ever be regarded as the reformer of our therapeutics in childbed fever: nor can it be denied that since his publication there is universally diffused a more perfect and sensible conviction of the inflammatory character of the disorder, and, what is of far greater consequence, the little regard that need be paid to the state of the pulse in making up one's mind as to the necessity of treating it boldly in its curative stages. I say this even in view of Tonnellé's celebrated papers.

Gordon had neither leisure nor privilege to make numerous or elaborate dissections; that task has been well fulfilled, eminently well, by Robert Lee, of London, in his *Treatise on Puerperal Fever and Crural Phlebitis*, which you will find at the 21st page of Barrington

and Haswell's edition before cited. The task has also been admirably performed by Tonnellé, and others. All the researches since his time have but added strength to the pathological explanations, that are first to be sought for in Gordon's volume. The newer and more minute essays, which proceed so much further than Gordon had gone, ought to be studied by every one of you; for I do not believe that the writings of Hey, of the younger Baudelocque, of Armstrong, of Mackintosh and Lee, of Legouais, or Collins, combined together, could carry such a weight of conviction to the mind of the reader as the perusal of them after the study of Gordon's would do. Gordon is the first of the series, and the others wait on him, and honor themselves by illustrating him and their subject in confessing their obligations to the practitioner of Aberdeen.

If it were in my power, gentlemen, to put into the hands of every member of the class a copy of Barrington and Haswell's volume, I would not take the trouble to write this letter; for I believe that a study of that volume alone—I don't say merely the reading of it, but a careful study and a conscientious examination of that volume alone—is almost enough for a man's education on the subject of childbed fever, whether sporadic or epidemic.

It cannot be too often repeated that the pregnant woman approaching the time of utero-gestation, generally undergoes many modifications as to the crasis of her blood, and suffers no inconsiderable changes in regard to the recrementitial absorptions of her body; since the pressure, intrusion, and distension of important textures cannot fail signally to interfere at many points with the innervative, assimilative, secretory, and absorbing functions. I think it would not be extravagant to say, that few women march up to the termination of pregnancy without falling into a state deserving to be called pathological. When the child has been born—often after the most cruel sufferings and the most protracted exertion; amidst the most convulsive efforts of the will; amidst doubt, anxiety, and fear—the uterus, returning upon itself, hastens to recover its non-gravid form and dimensions, leaving the constitution under the necessity of disposing of the surplus fluids and solid parts, which the pregnancy had called into existence. Tissues have been pressed together, subjected to contusions, and often to slight and unsuspected ruptures, or lacerations; the placental orifices of the uterine sinuses are left bleeding and inflaming; so that thousands and thousands of provocations to sanguine engorgement and acute inflammation always exist as to them. You will find a picture strongly drawn at the 475th page of *Archives Générales*, t. 22, 1830, by Tonnellé, in which it is asserted that gestation and parturition produce in the constitution

effects not very dissimilar from those developed by the causes of typhus fever.

It is justly to be regarded as a matter of wonder that so many thousands of women escape unharmed the operation of these unfavorable influences; nor should we be surprised when we meet with persons in whom violent disease has been developed by the operation of such causes. In particular, ought we to feel no astonishment, if an aerial cause, having the potency of an epidemic principle, come to add its force to the personal ones just enumerated.

We ought, then, to regard a newly-delivered woman as by no means freed from the perils of childbirth, because her child has just been born. In fact, so few women die in labor, or in consequence of injury done to the tissues in labor, that it might almost be said to be not at all dangerous to go through that process. The childbed mortality is a post-parturient mortality, consisting mainly in the results of inflammatory action attacking the reproductive tissues, and the parts directly connected with them. A woman shall now and then be found to perish from hemorrhage, convulsions, or inflammation of the lungs; from a cerebritis; from an attack of diarrhœa; from a bilious or typhus fever, or some chronic ailment of the intestinal tube, forced into destructive activity by the parturient circumstances; but, it is almost true to say, that when a woman dies within some eight or ten days after delivery, she has perished with puerperal fever, since so few of them are known to perish from other causes.

There is sufficient evidence of the fact that occult causes, whether atmospheric or local, are capable of so impressing the human economy as to give it a tendency, when affected by known morbific powers, to exhibit the effects of such forces, under sthenic on the one hand, and on the other under asthenic forms. Thus, for a series of years, the lancet, and the most powerful antiphlogistic methods are generally adopted by the profession; whereas, another series shall succeed, during which such methods come to be proscribed, and generally, at least, abandoned by our people. If, then, puerperal fever be a true inflammation, that inflammation may be a very different sort of malady when occurring in a constitution prone to typhoid forms of disease, from the same inflammation attacking an individual in a highly phlogistic and reactive condition of life, each suffering according to the nature of the epidemic constitution of the air. Local disorders always take their tendencies from the state of the whole nerve-force; and an inflammation of the womb or of the peritoneum, may be either in the highest degree vigorous, or to the last degree typhous in its nature. The inflammation, however, always remains essentially the same malady, regarded as

local—the constitutional disturbances flowing out of it are widely different, in the two opposite, or synochous and typhous formulas.

All the necroscopic examinations concur to show, that puerperal fever is a febrile condition developed in the system from certain radiating points of local inflammation of the reproductive organs. A puerperal fever that proves fatal, and leaves no trace of inflammation demonstrable by the necroscopic inquiry, ceases on that account to have, in my opinion, the value of puerperal fever; it is something else. I do not mean to say that if you examine the body of a female who has died, as you suppose, of puerperal fever, and find no gangrene or softening of the uterus, no inflammation or deposits within the belly, you are, therefore, to suppose that you have been mistaken in your diagnostic; you will find in the pathological records abundance of examples of the absence of these traces. But these very cases, being those of persons who have perished with all the constant signs of our malady, are cases of endangial disease, attacking the vessels of the uterus and parts in its vicinity: endangial disease, running early to the extent of pus-production or the pyogenic stage, may rapidly destroy the patient from purulent infection of the whole mass of the blood. I have no doubt that some of M. Tonnellé's cases were of this very kind.

The attack of puerperal fever generally begins previous to the fourth day after delivery of the child. Not a few examples are recorded, in which it began previous to the labor. I have seen such a case myself. For the most part, the dangerous day is the third day, for that is the period at which the new fluxional movement towards the mammary glands begins to take place. If the occasional causes of the disease have been in action, this fluxional movement, itself alone, might become sufficient to act as the exciting cause; laying the foundation, perhaps, in a few moments of active operation, of an inflammation that shall spread with frightful rapidity throughout the most important textures.

It rarely happens that an attack of puerperal fever comes on, in the absence of the physician, without its being mistaken for an after-pain; and, in fact, the pain at the commencement is accompanied with alternations of increased and lessening distress, which is likely to mislead in the diagnostic.

If the irritation is intense at the commencement, its constitutional influence is manifested by rigors, that may be simply moderate rigors, or that may rise to the height of the most violent ague-fit. The chill may last twenty minutes, or two hours, or more, and is followed by febrile reaction more or less open and free, according as the powers of the nervous system shall be exerted with a greater or less energy at the sources of the circulation. The chill of puerperal fever is found, in

some instances, to precede the attack of pain; from which you are not to conclude that the chill is the real cause of the attack. The chill is but a sign, not a cause of the commencement of inflammation.

A woman who is to be attacked with puerperal fever is a woman in health, or rather in a state of quasi health: she has neither smallpox, nor Syrian plague, nor yellow fever, though she may have a proneness to fall ill with what you call childbed fever. If you fire a bullet through her womb, or tear it, or contuse it with a pair of forceps or a sharp crotchet, and she die of the inflammation resulting from the accident, she will die of puerperal fever. And so if from the intense irritation endured by the organ under after-pains; if from the impetuous momentum of torrents of blood determined upon its tissue during a rigor or an ague consequent upon swallowing a tumbler of iced water, or of getting out of bed while in a state of perspiration; or of the intempestive action of a drastic purgative dose; or if, from whatsoever cause, the bloodvessel system of the uterus becomes the seat of a local inflammation, that inflammation will determine in her the onset of childbed fever, which you shall denominate uterine phlebitis, metro-peritonitis, ovaritis, simple peritonitis, or inflammation of the lymphatics of the uterus, according as the phenomena clearly made manifest during the life of the patient, or upon examination after death, shall determine you to call it. Don't you see, my dear friends, how impossible it is for me, after writing the above paragraph, to admit the possibility of a specific contagion as the cause of this malady; a contagion which, if it does really exist, must in a thousand instances act without the intervention of the shortest imaginable incubative stage.

Sometimes the pain, which at the onset of puerperal fever is felt in the hypogastric region, is too intense to be borne by any human patience; and no exhortation or recommendation can prevent the woman from crying out aloud, or even screaming in her agony. I have seen patients who not only appeared to suffer intolerable pain, but in whose minds that pain appeared to excite the most unspeakable terror. I think I have seen women who appeared to be awe-struck with the dreadful force of their distress, as you might imagine an ancient Roman matron to be who might suppose such a pain to be inflicted by an *ictus Jovis*, the anger of the Gods. The pain, however, soon loses a portion of its intensity, and no doubt much of the earliest and sharpest pain is neuralgic, since it is not in the nature of mere inflammation to occasion such great sufferings.

The paroxysmal character of the pain in metritis must be deemed to be occasioned by a convulsive or spasmodic constriction of the inflamed tissues, under the irregular activity of the muscular fibres of the organ,

which soon ceases, allowing the pain to become more settled, steady, and bearable.

If there be a chill, there will be found, as in all chills, increased frequency of the heart's action: the systole comes in a very short time to be repeated at the rate of 120 or even 160 beats per minute. This is necessarily accompanied with congenerous modification of the action of the respiratory muscles; and there is no part of the whole economy of the creature throughout which the blood is not driven with an impetuous haste and force. But the brain cannot receive such modified injections of the blood, and of the oxygen of the blood, upon which depends its power to evolve neurosity, without irradiating its nerve power morbidly to every part and parcel of the tissues of the woman. So that you see, gentlemen, there is no occasion to be surprised or astonished, when, after having left your patient at ten o'clock in the evening comfortable, and apparently without any untoward symptom or accident, you find her at six in the morning a prey to the most unspeakable disorders of the innervation, the respiration, and the circulation.

The foregoing is sufficient to set forth my opinion as to the nature and beginning of the attack of childbed fever. To show you what may be the organs involved in the ravages of a disease thus commencing, I shall cite for you some passages from Tonnellé's paper, *op citat.*, page 482.

This author, in the great epidemic which he witnessed at the Maternité in Paris, when he acted as resident student there, under the guidance of the celebrated Prof. Desormeaux, had the extraordinary opportunity, but still more wonderful industry, to dissect the bodies of two hundred and twenty-four women who died under his care—more than perished at Contreras, Churubusco, or Chapultepec. He gives the following tables showing the tissues affected:—

193 gave peritonitis.
197 gave disease apparently of the womb.
4 represents the excess of the uterine cases over the cases of peritonitis.

One hundred and ninety cases gave—
79 of simple peritonitis.
29 of superficial ramollissement of the womb.
20 of deep-seated ramollissement of the womb.
58 of inflammation of the ovaries.
4 of inflammation of the ovaries, with abscess.
90 cases gave pus in the veins.
32 " gave pus in the lymphatics.

3 cases gave pus in the thoracic duct.

9 " gave inflammation and suppuration of the lumbar, inguinal, and other glands.

The whole epidemic was characterized by three formulas of puerperal fever, as follows:—

Puerperal Fever, or Puerperal Disease.

- Inflammatory or simple inflammation of different organs.
  - The peritoneum, the womb and its appendages.
- Typhoid form, or from alterations of the blood.
  - Consecutive suppuration of the veins; or accompanying putrescence or ramollissement.
- Ataxic form, or lesions of the innervation.

Now, this is sufficient to set forth in a clear manner, as far as it goes, the doctrines you ought to adopt as to the pathological seats of our disease; and let us therefore proceed to trace the character of it.

Let us suppose that it is one of the peritoneal cases; a case in which the peritoneal surface of the womb, of one or both of the broad ligaments, or of an ovarium is the radiant point, the first red-specked point of inflammation. Suppose the inflammation to extend upon the intestines, to attack the meso-rectum, the peritoneum covering the iliacus internus, the mesentery, the whole peritoneal coat of the smaller intestines and the omentum—the mesocolon and the colon—the stomach, the peritoneal coat of the liver, and the entire lining of the diaphragm, as well as of the kidneys and spleen; and then you will have an idea of a woman laboring in the lying-in state under a universal peritoneal inflammation.

Consider now that she has passed through the whole of the evolutions of a nine-months' gestation; through the convulsions, intellectual, physical, and moral—of the conflict of labor; and, to a certain extent, through the mutations of her constitution consequent upon delivery; her blood deranged as to its crasis: her neurine exhausted by protracted exertion of its functional power, and her whole endangium in a condition in which it is highly prone to take on, if it have not already fallen into a real pathological state.

What is the condition of your patient? Has she not hepatitis? Has not she a pure hepatitis, the whole peritoneal surface of whose liver is inflamed? If the whole outer superficies of your stomach is in a state of incandescent inflammation, have you not a gastritis? But suppose her mesocolon, her mesentery, her meso-rectum, her ligamenta lata all burning, like a prairie on fire; are not all these parts in a state of inflammation? And if they be, what wonder have you to find her whole nervous system shocked, overwhelmed, staggering, as under a

concussion, and crushed to death by a load of diseased perceptions and vascular and textural obstructions impossible to be borne ?

This is a picture, not at all exaggerated, of some of the forms of puerperal fever. That individual is very tenacious of life who fails to succumb under the earlier stages of the mortal developments of such inflammation. There are multitudes who die before it can come to the stage of effusion or sphacelation; but death must come to many of those whose peritoneal cavity contains pints or quarts of serum in which float masses of coagulated albumen. The uterus and intestines and peritoneal surfaces are tied together by a complete magma of coagulable lymph, beneath which are to be found softening of the tissues, and other results of the most intense inflammatory action. Inflammation is *inflammation;* it is not weakness or debility; it is development force violently exaggerated in the tissue which is the subject of that force.

I pray you, young gentlemen, do me the favor to turn back to Letter XXI., and you will find, on the 296th page, my quotation of several paragraphs from M. Serres's *Anatomie Transcendente.* If you mean to read my letter on puerperal fever, I am very desirous that you should really appreciate my meaning and intent, and the reading of M. Serres's extract will be a good preparation therefor. It will show you that the products of inflammation are the products of a force acting in progression, and not in retreat, and that inflammation is the result of an increased action of the development force, tearing or bursting to pieces the organs in which it revels.

Let us take another case. Let us suppose a case in which the endangial membrane of the uterine veins begins to be inflamed at their orifices, which are patulous in the now denuded placental surface, and, progressing rapidly along the membrane, involves the whole vascular system of the uterine sinuses and veins in its embrace.

Look at it now. Can't you see it with the eye of faith ? What is faith ? The Bible tells you that faith is the evidence of things not seen. Have you not that evidence ? Look at Tonnellé's paper, *op. citat.*, page 483.

His table is as follows : In ninety autopsies,

32 had suppuration of the veins, with purulent degeneration of the uterus.
11 had ramollescence or putrescence of the womb.
5 had metritis and ramollescence combined.
34 had peritonitis without other alteration.
8 had suppuration alone.

Here is the evidence, which your faith ought to see, of the state of

suppuration of the veins—a result of inflammation of the endangial tissues. Thirty-two out of ninety cases!

Look at it again. Don't you see two vast uterine arteries, coming off from the internal iliac or the ischiadic? And don't you see, also, two powerful branches, which we call the spermatic, the sum of whose transverse areas or lights is a vast sum, through which is pouring, under the convulsive and disordered action of the systole, a torrent of blood to fill up the capillary circulation of the uterus, and which shall find no other way of escaping out of the womb than through the thickened, swollen, obstructed, and often totally obliterated vein tubes, of which I spoke?

If you would read M. Raciborski's admirable *Treatise on the Veins*, you would learn from it that a vein, when it enters a viscus, leaves all its accessory coats at the entrance, and carries in with it nothing but its endangium, or what Bichat calls its *membrane commune*. If this be the case in the vein-distribution within the womb, then you cannot doubt that uterine phlebitis will always be coincident with metritis—that is, with inflammation of some part of the substance of the uterine texture.

Raciborski's paper on the veins, in the 9th vol. of the *Memoirs of the Royal Acad. of Med.* for Dec. 1840, contains an assertion that a woman cannot recover from the accouchement without adhesive phlebitis of the womb; and that every case of what is called milk fever is a case of true phlebitis.

"La fièvre de lait n'est donc pour nous que la fièvre traumatique, occasionnée par le travail de l'accouchement, modifiée plus ou moins par les circonstances particulières au milieu desquelles se trouve une femme qui vient d'accoucher. C'est la fièvre puerpérale éphémère, d'après Doublet."—p. 621.

Look again—with your eye of faith—I say, and inquire how the volumes and torrents of blood that are becoming more and more packed and jammed into the capillary body of the organ are to flow off and let the organ recover by Mr. John Hunter's process of *resolution*. Suppose it cannot flow off as fast as it arrives—will not the womb die?—will not the inflammation reach that height and intenseness that must, as Dr. Physick used to tell us, transcend the power of recovery, and must therefore end in the destruction or disorganization of the tissue! It will be destroyed, it will be disorganized—it will perish by gangrene, or by ramollissement, which virtually is the same thing expressed in different words. The womb will die, and the woman will die in consequence; for she cannot continue to live while her nervous system suffers the shock or the irritation attending upon such an intolerable

organic perception as that. She will die; and it will not unfrequently happen that she shall die within thirty-six or forty-eight hours from the onset of the malady, and some cases terminate fatally even in eight hours. She may die with this very malady alone; and when you come to explore the pathological lesions, you will find, perhaps as in the ninety cases reported by Tonnellé, that eight of them exhibit no complication or extension of diseased action.

You must cure these diseases. They are, however, to be cured promptly, or not at all. Such a malady as this hurries with hot and furious haste to a term beyond which there is not, and cannot be any useful Therapia.

But it is time, gentlemen, to return to the consideration of some of the phenomena that accompany the malady when it is complicated with or consists solely of peritoneal inflammation. The disorder attacks, in general, before the end of the fourth day. The womb remains, up to that period, very large; its fundus jutting far above the plane of the superior strait. Upon each side of the organ rests a psoas muscle, which overhangs, by its inner margin, the side of the brim of the pelvis. When this muscle is contracted, which is always done in the act of drawing up the knees, the belly of the muscle swells, and presses upon the side of the womb; the pressure gives pain, and the woman knows it. She therefore dislikes to draw up the knees often, for fear of the hurt. When once drawn up, however, by the contractile effort of the psoas, the foot rests planted on the bed, and the psoas relaxes—so that it hurts her less when drawn up than when extended. She soon instinctively draws up her knees, therefore, but she keeps them up.

When you go into a lying-in chamber, and find the patient in this attitude, you ought to inquire why she prefers it. She may prefer it because the uterus is less compressed by the psoas; and also, because the peritoneal covering of the psoæ being inflamed, is relaxed by the relaxation of the muscles.

For many years past, I have perhaps never called upon one of my accouchées, within four or five days after the delivery, without asking her to show me whether she could draw up her knees without pain. If she can do so, I am always content.

The iliacus internus muscle that lies upon the fossa or venter of the ilium, gives pain if contracted, when the peritoneum that invests it is inflamed. Hence, I cause my patient to rotate the lower extremity, in order to inquire whether the action of the muscle produces pain, and, if it does not, I cannot deem it covered by an inflamed peritoneum.

In all cases of a suspicious character, you ought to direct the monthly nurse to remove the binder for you, and then, covering the patient's ab-

domen only with the thinnest dress, give you an opportunity to make a careful exploratory palpation of the belly. By means of palpation and percussion, you may come with great certainty and confidence also, to a firm conclusion that the pain is, or is not peritoneal or metritic, or ovaric.

You cannot make any useful researches if one or two petticoats, and other garments be interposed between the hand and the belly.

It is very difficult sometimes to say clearly that it is inflammation, and not after-pain; or that it is, or is not rheumatism, or neuralgia, or colic.

Suppose the peritonitis to seize on the serous coat of the large and small intestines! Tympanitis will commence very soon after the invasion. The muscles of the bowels are found torpified and refraining, under a sort of teleological sense, to act, while their peritoneal investment is inflamed. The gases that are now extricated in great volumes from the ingesta fill up and distend the alimentary tube, and the abdomen becomes as large as previous to the labor. This is the tympanitis.

I saw a case, and more than one, in which it became inflated in the course of a very few hours after the attacking chill had come on—and becoming hard and resisting, though highly sonorous on percussion, refused to yield to any kind of aperient or purgative means, as completely as if the peristaltic muscles were in perfect paralysis—the patient perishing within thirty-six hours.

Pray, my young friends, do not allow this ballooning of the belly to become too great, under some idle fear of the effect of purgatives. A patient often more urgently requires to purge off the intestinal gases than the bilious or acid saburra that plagues her. Whoever objects to the use of purgative doses upon some hypothesis of their being injurious in puerperal fever, must be a person of little reflection and less judgment.

An extreme degree of tympany implies an extreme inflation of large portions of the intestinal tractus, in which case the coats of the bowel become stretched like a drum-head, and are, under percussion, as sonorous as a tambourine.

Reflect for a moment on the effects of such distension upon the play of several important functions. For example: Reflect upon the capillary circulation in the intestinal textures while stretched to bursting: can there be a resolution obtained, without previous *détènte*, of the bowel?—Again. Here is a great mass of inflamed intestines, and other organs that fill up and enormously distend the belly—they even thrust the diaphragm upwards as they push the abdominal muscles and tegumentary tissues outwards to the size of the gravid abdomen at term, and even further out than that.

Can the diaphragm descend in the aspiration without crushing downwards before it, this inflamed and highly sensitive mass? No! Every breath gives pain—to make a long aspiration is impossible; and to cough or to sneeze is to be agonized. The diaphragm works with short strokes then, for the respiratory piston descends only half-way down the cylinder of the trunk, and it works like a steam piston cut off at half stroke. In the mean time, the oxygen of the respiration is indispensable—and if a certain quantity cannot be supplied by the half-stroke, that stroke must be repeated twice, or thrice for once. Here, then, we have a new source of disorders in the redoubled and trebled frequency of the respiratory acts. So much oxygen—or death—that is the alternative; and, if the breathings must be repeated at half-strokes, or at quarter-strokes, at the rate of sixty respirations per minute, the medulla oblongata must furnish the nervous material. What an exhausting operation! Here, then, you get the hurried, singultiform, staccato respiration of your puerperal fever cases.

When this respiratory difficulty rises to a certain height—and the nervous supply grows feebler and feebler from the exhaustion of the neurine—the blood commences to be less perfectly decarbonized, or less completely oxygenated. The oxygeniferous streams in the brain are changed for carboniferous streams, and, *pari passû*, with their increase the innervations lessen; they cease; and the life is fled at the moment of that cessation. Such are the evils arising from the tympany of childbed fever. All the medicines that excite the peristaltic muscles of the bowels, to expel this gas, are purgatives or laxatives. Is it true, then, that purgative medicines are contra-indicated in our malady? What stupid misapprehension to say so! Is it not easy to perceive that one of the most inconvenient and dangerous of the accidents that can happen to a female attacked with puerperal peritonitis, is this very inflation of the alimentary tube; and that the means of obviating it are among the most important that can be sought for as securities for the cure of the essential malady—by which I mean the actual inflammation?

We shall now, if you please, advert to the state of the heart in puerperal fever:—

"The nervous filaments that animate the heart come from the pneumogastric and the great sympathetic." These words I have cited from Longet's *Anatomie et Physiologie du Système Nerveux, &c.*, tom. ii. page 526. I do not ask you, however to adopt any other opinion as to the source of the heart's motion than this, viz: that it depends upon the neurosity determined into it, or generated within it—and that this same neurosity is the result of the presence and combination of oxygen

and neurine. I have no doubt, in my own mind, as to the power of the pneumogastric and the sympathetic to modify, and, to a certain extent, co-ordinate the movements of the several parts of the heart. I am not at all surprised, then, to find when the organic and intellectual perceptivity of the woman are brought to feel the impressions made by an inflammation, whether metritis or metro-peritonitis, that, the reflex power of the nervous centres directed upon the heart, should rapidly and greatly augment its rate of action. A thought, a sentiment, a shock can set the heart off at full speed. The profound impression of a great viscus in danger can equally excite its forces.

The heart, then, in puerperal fever, beats with redoubled frequency, and we expect to find the pulses at the wrist rise to 120, or even 150 beats per minute.

Along with this great acceleration of the circulation, there will be an increased extrication of animal heat, and a coincident mischief to the constitution of the blood, whose normal rate of movement is expressed by a radial pulse of a certain volume, beating only seventy times a minute. See what great disorders are introduced into the actions of the economy—see what you ought to do for your patient! You ought to keep down the frequency of the pulse, in order to lessen the call on the sources of the heart's motion at the origin of the vagus and in the sympathetic arches. You ought to lessen the evolution of animal heat by lessening the intensity of the respiration and circulation. In short, you should look on all the phenomena exhibited by the constitution as the signs and results of a topical lesion—*videl.* the metritic, or the metro-peritonitic lesion—and you should use all the means within your control to guard the constitution against the irritating and disordering influences of that metritis, phlebitis, or peritonitis. I am far from denying that a status of the constitution, a status *ante febrim*, may rule and modify the march of the malady; it would be as unreasonable to deny it as it would be to deny that one individual is weak, and another strong—one prone to violent, and another to mere passive or ataxic forms of disease. But I contend that the disease is one and the same, everywhere, always; sporadic or endemial; in private practice, or in the hospital clinic. It is essentially inflammation, and though not always to be approached by the same precise remedies, yet always on the same principles.

As to the mode of treatment for our disease, it is clear that your intentions of cure must flow out of your views of the whole of the phenomena, seen in the light in which they may be presented to your minds at the bedside. If you imbibe the idea that they depend upon a typhous state of the constitution, you will scarcely fail to treat it as

typhus. M. Tonnellé remarks upon the fact that almost every observer selects and advocates a method, one of his own, to the exclusion of all others; one person proclaiming the success of general bleeding—another of topical bloodletting; one of mercurials, and another of ipecacuanha, or purgatives. It seems to me that all this uncertainty arises from the imperfect etiology of the case as deemed of by the *proneurs* of each particular practical mode.

I have myself been condemned in some of the foreign journals as extremely *sanguinary*, as it is called, in my sentiments as to the treatment of the cases; and if by sanguinary is meant that I look upon venesection as THE REMEDY, I am willing so to be held. But let us proceed, now, my friends, to inquire calmly and dispassionately, if we can, into the claims of the different methods of cure. Let us try to divest ourselves of all feelings like party feelings in the case, and investigate the subject with a heartfelt desire to discover the truth, that we may enjoy the benefits of the truth in going about doing good in our vocation. For my own part, I hope that there is in me no wish to cause any particular *theory* to flourish, since, whether it flourish or fall, I am not interested, as I am no founder of systems, but rather a mere humble imitator and grateful admirer of those good writers who have taught me my art, and to whom I am willing still to be nothing more than a docile Pupil and humble Student of Medicine.

In a former part of this letter, I said that I considered Alexander Gordon, of Aberdeen, as the real informer of our therapy in childbed fever. Now, I propose to inquire further as to his claims to be so regarded.

If I should retrace the history of our disease, I should write a whole volume, and not a letter; I cannot, therefore, entertain you with a retrospective review of childbed fever.

It is enough to know that before Gordon's time, it was excessively mortal—and is so still, wherever his book is not read or felt. Dr. William Hunter lost thirty-one out of thirty-two cases of it. In Paris, there was an epidemic, in 1750, which killed every patient. Denman, Leake, and others, were afraid to treat it as it required to be treated; and Gordon, a man of sense, says that the "disease, when left to nature or improperly treated, generally proves fatal," and he very correctly accuses Leake of advising prompt, copious bleedings, while in practice he took away only eight or ten ounces.

I have already said that Gordon lost nineteen out of thirty-eight of the first cases that he encountered in his epidemic. It was the thirty-eighth case that afforded him the materials for dissection, and he makes, at the end of the account of that case, the following remarks, after

having given a statement of the inflammatory results disclosed in the autopsy. "If," says he, "either the quantity of blood taken away at the two bleedings had been taken away at the first bleeding, or the purging been continued, which was exchanged for sweating, I am thoroughly convinced that we should have been able completely to overcome the disease. This was the opinion which I formed from the dissection, and its truth was confirmed by my success in all the succeeding cases to which I was called. Thus, the loss of this patient was the means of saving many others." He subsequently attended thirty-nine cases of the disease, of which he lost only ten, and saved twenty-nine; so that, of his whole epidemic, forty-nine patients recovered and twenty-eight died. He says: "We are directed by Drs. Milne and Leake to form our judgment from the pulse. BUT I ASSERT, IN THE MOST PEREMPTORY MANNER, THAT IF PRACTITIONERS ALLOW THEMSELVES TO BE GUIDED BY THE PULSE, THEY WILL RUN INTO A FATAL ERROR, BECAUSE THE PULSE IS MORE FREQUENTLY WEAK AND FEEBLE THAN STRONG AND FULL EVEN AT THE BEGINNING OF THE DISEASE." "The conduct of practitioners must be governed by the stage of the disease and not by the state of the pulse."

Dr. Gordon, at page 47, says: "Of those of these patients who got wine and cordials, under the idea that the disease was putrid, none recovered," which he considers as evidence that the puerperal fever is an inflammation. He admits that it frequently puts on a putrid appearance in its progress, which he most judiciously explains as the effect of the uncured, violent inflammation; and he asserts, that when the disease is properly treated at the commencement of the inflammatory stage, no symptoms of putridity appear.

Omitting any notice of the intervening chapters, I shall refer you to his sixth chapter, on the cure of the malady. At the 55th page, you will find these words: "When I took away only ten or twelve ounces of blood from my patient, she always died; but when I had courage to take away twenty or twenty-four ounces at one bleeding, in the beginning of the disease, she never failed to recover."

He insists upon it, that the practitioner should never take away less than twenty or twenty-four ounces at one bleeding; and that, otherwise, he will fail in curing the patient. At page 56, it appears he had felt the prejudice against bleeding in full force, for he lost every patient from whom he took not more than twelve, fourteen, or even sixteen ounces. Please to observe that Dr. Gordon says, "This abstraction of blood must be made within six or eight hours after the attack, or it will fail;" and adds that he declined using the lancet at a later period,

because he knew that it would fail, and he would not bring that remedy into discredit.

Let me cite for you from the 60th page. This, it may be said, contains the summary of his precepts as to venesection; and although the period at which he would still bleed is fixed rather later after the attack, I am disposed to take it as the last satisfactory result of all his experience. It is as follows:—

"After much experience in the disease, and after mature deliberation concerning the conduct which ought to be pursued in my peculiar situation, I came to the following resolution: If called to a case within twelve hours after the attack, I insisted on bleeding the patient, and promised for its success; but, if at a later period, viz., from twelve to twenty-four hours after the attack, in this case, like Sydenham with the same remedy in smallpox, I thought it incumbent on me to propose it as the only effectual remedy; but I neither insisted upon it, nor promised for its success."

Mr. William Hey, Junior, practitioner at Leeds, a man of talent and candor, who encountered epidemic puerperal fever in 1809–12, gives us the account of thirty of his cases. The disease was first seen by him December 9, 1809, and, up to the time of his ninth case, in June 1810, Mr. Hey had not seen Gordon's treatise. His attention being then called to Gordon's doctrines, he adopted that author's recommendations, and went through the remainder of the same epidemic with the most brilliant and happy success. You will find the same good fortune as to Dr. Armstrong's practice in the Sunderland epidemic and the fine practice of Dr. Robert Lee of London.

Hey does not inform us how many cases he had during the whole prevalence of the epidemic. He merely says a great number of them came under his observation. Of the thirty cases published in detail, the following is a tabular view of the dates, the treatment by venesection or otherwise, and the results.

Case	1,	1819,	December 9,	Not bled	died.
"	2,	"	no date,	"	"
"	3,	"	December 27,	"	"
"	4,	"	no date,	"	"
"	5,	1810,	January 26,	"	"
"	6,	"	" 26,	"	"
"	7,	"	February 5,	"	"
"	8,	"	" 7,	"	recovered.
"	9,	"	June 18,	bled	died.
"	10,	"	July 5,	"	cured.

Here, then, is a table showing, that of ten cases from December 9, 1809, to July 19, 1810, in which two recovered and eight died, only the last, or No. 10, was really bled; since the other, No. 9, was bled but seven ounces twice, and three ounces at other times, which had no effect on the disease.

Mr. Hey having fearfully and timidly bled his patient No. 9, and having at that time, January 18, six months after the breaking out of the disease, become acquainted with Gordon's writings, followed his plan in case 10, which was promptly cured, and gave a fortunate turn to the direction of his views. After stating the first acquaintance he got with Gordon's work, which opened his eyes to the truth (see page 107, *op citat.*), he uses these words, at page 111: "The next case that occurred was the first of three, *which were all that proved unsuccessful in my practice, out of a great number*—after the change of treatment adopted in the preceding case (No. 10), and I hope we shall be able to show that the method of cure we now employ had not a fair trial in any of them; and consequently that they cannot be justly considered as instances of its failure." It is to be regretted that we do not know how many cases he had subsequent to July 30, 1810; he says, "a great number;" and you perceive, by his own showing, that the first examples under his care were very fatal, being eight out of ten.

There is an admirable paper, entitled *Reflexions et Observations sur l'emploi des Saignées et des Purgatifs, dans le Traitement de la Péritonite Puerpérale*, by Legouais.

Dr. Legouais was resident physician at the Maternité, at Paris, where he had large opportunities of studying the malady in question. At page 21, he insists, like Gordon, upon one of the conditions of success in the use of bloodletting, which is, that the evacuation must be effective—in an abundance suitable to the gravity and extent of the inflammation. "Experience," he says, at page 22, "has confirmed me in the belief that bloodletting is never truly useful except when it is able to destroy the malady at a blow, and blot it out—so to speak—at its very origin." It appeared to him that this is the very case to apply the "jugulare febrim," so celebrated as a *mot* of Galen. He says that it is like the fabled Hydra, which cannot be conquered but by cutting off all the heads at one blow; if a single one be left, it has sufficient vital force speedily to reproduce the monster, in a form more terrible than before.

But I am in danger of making out of this single letter a whole book, and perhaps of expressing myself with the warmth of a partisan, which I sincerely desire to avoid. I ought, therefore, to make no more cita-

tions: not even from the prize essay of the younger Baudelocque, in favor of the use of the lancet in the treatment of our malady; nor from Mackintosh—nor from West—nor from David D. Davis—nor from Denman himself, after he had recovered his senses upon the subject.

But you must excuse me if I advert to the reports of cases under that distinguished author, Dr. Robert Collins, of Dublin; and I do so the more willingly because I ought not to show you only the side that is favorable to my own views. I should think that no work upon midwifery that has appeared since the beginning of the present century has acquired greater reputation for its author than the *Practical Treatise on Midwifery, &c.* by Dr. Robert Collins, and it certainly is one of the most important contributions that has been recently made to the Obstetric art and science. It is replete with the most judicious directions, and impressed with the characteristics one might expect to find in the writings of an able and conscientious observer; besides which, it contains the statistical results, most ably set forth, of 16,414 births, under his superintendence, at the great Lying-in Hospital of the Irish metropolis. You will at once acknowledge how great must be his experience in midwifery.

I am sure, gentlemen, that while no person interested in the advancement of our particular department of Medicine and Surgery, who reads that book, can fail to acknowledge its very great merit, one may nevertheless, have a just right to examine, and even disapprove, of certain parts of the doctrine—not without the profoundest sense of obligation to the author for all the useful information he has communicated.

If you will turn to Dr. Collins (page 396), you will find the following remarks on bloodletting in our disease:—

"The result of my observations upon the treatment of puerperal fever is that general bleeding, except where there is a strong, full pulse, and the symptoms are of a highly inflammatory character, is injurious," &c.—Dr. Collins prefers leeching, followed by the warm bath, stuping, calomel and ipecacuanha with opium, mercurial frictions, &c.

Dr. Collins asserts, very broadly, that his experience teaches him the above rule or principles of action.

I beg you, however, to observe on what basis this opinion is founded.

There occurred, under his administration of the house (*Vid.* p. 391), eighty-eight cases; of which *fifty-six* died and *thirty-two* recovered. "In *fifteen* only of the eighty-eight did we deem it advisable to bleed generally; *seven* of the fifteen recovered." In the whole of the epidemic, therefore, *fifteen* were bled, and *seventy-three* were not bled.

Fifty-six died—of whom only eight were bled, and forty-eight were not bled.

Does not the question here arise: Why did forty-eight persons die who were not bled, while only eight perished that had been subjected to the treatment of Gordon, and seven others recovered? Is the inference a just one that the eight died because they were bled, while forty-eight died though they were not bled?

If you will read Dr. Collins's article, you will find that he leeched his patients very freely, and thus bled them from the skin, while he did not approve of the loss of blood from a large vein. Pray attend to the meaning of the word bleeding, which here means venesection. You should observe that Dr. C. used leeches freely—but I wish to fix your regard on the Gordon method of cure, which was by venesection and not by topical bleeding.

It appears to me that this simple statement ought to suffice to show you that Dr. Collins's objections to the use of the lancet are of less moment than they would seem to be upon a simple reference to his broad assertion of its inapplicability, and to his acknowledged reputation; since it appears that his experiment of the venesection was inconclusive from being early discontinued. It is true that he refers to a former experience, when he was assistant, in 1823, and when bleeding was used by the then Master. But we have no data, on which to form an opinion as to whether those venesections were in accordance with the Gordonian rule or no.

Dr. Robert Lee, in his "Lectures," &c., before cited, gives, at p. 457, *et seq.*, a tabular statement of 160 cases of severe inflammation of the uterus and its appendages, observed by him in London, from 1827 to the end of April, 1838. The table is presented in five columns—of which the first one contains the number of the case; the second, names, residence, and delivery; the third, date of attack, and symptoms; the fourth, treatment; the fifth, result, and morbid appearances. This constitutes one of the most complete and accurate tables I have seen, and offers a good conspectus of the cases and modes of treatment. I have carefully analyzed Dr. Lee's table for you, and have divided it into—

1st, those who were bled and who died, &c., &c., as follows:—

72 who were bled; recovered.
15 who were not bled; recovered.
34 who were bled; died.
34 who were not bled; died.
5 no account of treatment.

160 cases.

Two-thirds, or 106 of Dr. Lee's cases were treated by venesection, of which 72 recovered and 34 died; whereas 49 of the cases were treated without the lancet, of which 34 died, and 15 were cured: a difference in result from those obtained by Dr. Collins that is very striking; 87 of Dr. Lee's people having been cured, while 68 died, he making a bold and daring use of the lancet—whereas Dr. Collins lost 56 out of 88 cases in which he used the lancet very sparingly, and not at all according to Gordon's precepts.

But a truce to statistics, which ought never to be the physician's guide. I am no admirer of medical statistics, as I have already stated in an early letter. I would, however, cite the above to show you that Gordon's precept does not kill.

You will, by this time, perceive that I am an advocate for the use of the lancet in puerperal fever: my clinical experience concurs with my pathological views to render me so. I have not been deterred by the reports of typhous forms of the malady, from viewing it as inflammation. Professor Moreau, who kindly showed me the whole establishment called *La Maternité*, at Paris, in 1845, pointed out, on the occasion of my visit to that great hospital, several cases then under treatment. He was of opinion that in many cases venesection is *the* remedy, but that seasons occur wherein the patient will not tolerate the loss of blood. He is a person of great experience and wisdom. M. Cazeaux, who was on duty at the *Clinique d'Accouchement*, gave me the same opinion; as did also Professor Retzius, of Copenhagen, whom I had the pleasure to see there while visiting M. Cazeau's wards. All that I saw on those occasions, and all that I have myself witnessed before and since, confirm me in my admiration of Dr. Gordon's precepts; and I adhere to, and adopt, and I desire as your Professor of Midwifery, to lead you also to adopt Dr. Gordon's views.

Do you ask me if I expect to cure my patients by venesection, and whether they never die under that treatment? I answer, that the malady is able, in many cases, to resist all sublunary power; and that numerous instances must continue to occur in which the curable stages are overpassed before any open manifestation of the disease can be discovered. But, where the disease is curable, it is more curable by the lancet than by all other means besides, and is in fact generally curable by its means; while every patient is exposed to increased dangerous risks whose life is confided to any other single anchor of hope and safety. I look upon it as child's play, to attempt the cure of these great inflammations by doses of ipecacuanha—by calomel—by cathartics—by opium—by turpentine. I think that even the miserable *far niente* of the Homœopathist is likely to cure the cases that are curable

without the lancet; and that his ordinary and professional *nichts thun* will allow a patient to get well whose constitutional force is equal to the overcoming, by resolution, of a metritic or peritoneal inflammation.

What can calomel do in one of these great cases of peritonitis? Let me show you how inadequate is the remedy. Open your eyes to the reasonable representation—lay aside your prejudice, and think as a man ought to think. I mean to say, think for yourself. See, now! The alimentary canal alone is not less than forty feet in length from the cardia to the rectum. If divided with the enterotome, and laid out on its mucous surface, it would average a breadth of four inches by a length of forty feet. If you reduce this into square feet, you have fourteen square feet of peritoneal surface, even leaving out of the computation the rest of the serous membrane of the abdominal cavity. I entertain no doubt of having seen many individuals, in whom the whole serous portion of this vast superficies was in a state of inflammation. But the pain of a panaris, or the iritation of four or five square inches of erysipelas, will often suffice to disorder the whole constitution: what shall we think, then, of the disturbing power of a universal peritonitis in a woman just out of her gestation, and just escaped from the pains of her travail? And for such a case as this you propose to put—what?—what is it you are going to do with that solemn air?—you are going to put two, or ten, or twelve grains of calomel upon the mucous membrane of the stomach, to cure fourteen square feet of redhot serous tissue! Does it not seem preposterous? Why what a Snob the man must be!

Pray do not reply that you are going to get the *alterative* effect, or that you are relying on the *aplastic* power of the calomel.

Read Gordon. Learn to make your diagnostic of childbed fever; and then freeing your spirit from the shackles of the schools, dare to act upon the promptings of your reason and judgment. Do not suffer yourself to be governed by *a symptom*. Be governed, rather, by a clear, dispassionate, perspicuous observation of the state of the whole creature, and her wants. Do not rest your diagnostication on the pulse only. Believe me, my dear friends, that there are many cases of grave constitutional disorders, in which the pulse is not at all to be held a fitting guide to the physician; and that if you be but pulse-feelers, and nothing else, as long as you live you will barely rise above the height of the Chinese doctor, who founds his diagnosis, prognosis, and therapeutical course, upon a judgment of the pulse of a lady, which is thrust through a hole in the door, for his opinion as to her health and requirements.

I am very sure I have been many times able, *jugulare febrim* in puerperal fever, by a Gordon venesection, that I should not have dared

to make had I been led only by the perception derived from my fingers. Are not a man's senses more than one? and shall one sense carry all the others away captive, and bind in chains the contrary judgment arising out of their combined perceptions? Don't let your fingers deceive and mislead you, when you have eyes, hearing, reason, and judgment, to proclaim that they are traitors to you, and only hide the truth.

In these great circumstances, neither you nor any man should trust for his guidance to the radial pulse alone. You should examine the brachial, the carotid, the temporal arteries, and know them all. You should go to the fountain-head of the circulation, and by a careful, prolonged auscultation of the heart, confirm or correct the more imperfect notions of the state of the sanguiferous system derivable from touching the radial pulse alone.

I repeat it—read Gordon; learn how many hours are fled; and judge, whether the progress of the malady may have carried the victim beyond the curable stage; for there is, there must be a curable stage. Is the woman past hope before her sickness is begun? Is she foreordained to this particular death?

Having now laid before you, perhaps at too great length, my opinion of the indispensable necessity for venesection in our malady; its safety, and its superiority over all other means, I need not say anything further on the subject, except to warn you not to trust this operation to other hands than your own. You should always be present; the light should be good, in order that you may clearly observe the changes in physiognomical expression that attend the outflowing from the vein; the apartment should be in order; no noise, no movement, ought to be allowed. The patient's position should be carefully directed; neither allowing her to be raised too much, nor to be on pillows too low. A man who is about to bleed in a puerperal fever should be solemnized; there should be a **mit hülfe Gottes** sentiment about him; for, on his operation hangs a human life. Death, widowhood, orphanage, are often the questions that are suspended upon this eventful ministry.

Many doctors prefer leeches in the treatment. You may see what a very free use of them was made by Dr. Collins—and you may see, also, that the success could not have been much more unsatisfactory. Lee is no leecher; he is a good Gordonian bleeder in our case, and owes his brilliant success to that. Désormeaux was a leecher and mercurializer. You will find it so if you will read Tonnellé, who tells you he lost 240 patients with it at the Maternité. Chaussier was a good bleeder; see what his intelligent *élève* Legouais says about it.

I never could understand well the motives of those, who, though they are more frightened at the click of a spring-lancet than is "a hurt fowl

or a struck wild duck" at the report of a caliver, yet find nothing at all distressing in the noiseless absorptions of two or three hundred leeches. They dread Dr. Gordon's direction to take twenty ounces at a bleeding, but they are not in the least alarmed at the abstraction of forty or fifty ounces by 300 leeches; not put on all at once, it is true, but in the course of a very few days.

For my part, I am afraid of leechings. I am not afraid to bleed with my lancet, with a good light on the patient's face, and my fingers on the pulse; for I can always feel satisfied that the flow is enough—not too little, and not too much. I can stop the jet with the dossil of lint—I can interrupt, or arrest, or recommence the bleeding in an instant—I can auscult the heart while it goes on, and feel that I am guiding a powerful, but docile servant of my ministry. In leeching, I always procure fatigue, pain, damp, and often exhaustion for my patient.

In puerperal peritonitis, the inflammation is in the intestinal peritoneum. All the blood of that inflammation is blood from the digestive arteries—the celiac, and the two mesenterics. What reason have I to expect to control the action of *their* distal and capillary branches by leeches placed on the skin of the abdomen? Would it not be as reasonable to leech the calf of the leg as to leech the belly for the cure of childbed inflammation? In childbed inflammation it is the intestinal not the parietal peritoneum, that is sick. I shall not deny that I have, on occasions, applied leeches to the abdomen; but I have ever done so in doubt, and shall, probably, continue so to use them, and even less frequently than heretofore.

Great stress is laid upon the power of calomel to cure the disease, and many physicians regard it as the sheet-anchor of hope and safety. I have no doubt that its aplastic therapeutical force is great, especially when given in large doses, and when its cathartic influence is lessened by combination with opium. A woman who has been attacked, and who has been bled, ought to take some ten grains of calomel with a grain of opium: a dose that should be repeated in the course of some four or six hours, provided the first one be not followed by alvine dejections.

I would give this medicine, because a dose of the mild chloride of mercury almost invariably produces a sensible degree of qualm, or nausea, which has a checking influence on the intenseness of the circulation, thereby moderating the threshing power of the heart and the vessels, so much as to hinder the increase of the fibrinous element in the blood.—Remember, that the fibrinous element is expressed by 3.5; calomel assists to prevent its figure from going up to fifteen, or even twenty. But if you bring about the inflaming effects of mercury, as in salivation or stomatitis, then it is not aplastic, but the very opposite!

Calomel excites the secretory offices within the alimentary tube. As a general rule, the more abundant those secretions, the more completely are the remote branches of the digestive arteries disengorged. All those branches furnish secretions for the bowels, or for the liver; they go nowhere else. Calomel, then, is a good and reasonable, nay, a precious drug for the occasion. But to trust to it alone, is to lean on a broken reed that pierces the hand. Calomel is one of the leading juvantia in the cure, and nothing more.

So rapid is the rush of the attack and conquest, that "*cita mors venit, aut læta victoria*," as Gordon quotes the lines from Horace. It is not a case in which a prudent man dare wait for the alterative influences of a mercurial ptyalism. If those influences could be set up in time, they would perhaps often prove the effectual bar against the destructive advance or continuance of the malady. But they are rarely to be got up.

Many a life may be saved, in the course of a long medical career, by means of the supporting consolations, and the recovering exhortations, that fall from the lips of a medical man who is known to be worthy of confidence and trust. I hope that you will not believe, because you have got your Diploma in your hand, and because you have just been told in the College the names and the doses of the various articles of the Materia Medica, that all you have to do in this world, in your vocation, consists in meting out those drugs and medicines. I hope you will live long enough to know that the function of the physician goes beyond the exhibition of his doses, and that the power of his presence, of his deportment, of his opinion, and his decision, is a real power over the mind and the body of the patient, more true, and more useful than the pretended Mesmeric force. An eloquent man can control the wildest mob, or sway the opinion of the gravest senators. Eloquence, however, is not found only in the harangue; you may see it in the gesture; it is heard in the whisper; its most potent spell often breathes in that still small voice of the Physician, which, amidst terror and doubt and anxiety, gives assurance of protection and restoration.

In the conduct of cases of puerperal fever, it will be a matter of no inconsiderable moment to determine the precise seat and degree of the lesion; and, for this purpose, it is not sufficient for you to go into the patient's apartment and ask half a dozen questions as to the state of the bowels—feel the pulse, and ascertain the state of the tongue. You should examine your patient carefully. If she, for instance, lie in bed covered up with two blankets and a counterpane, it won't do for you to examine the state of her abdomen through the bedclothes, petticoats and all, as I have seen people do. Her life is at stake; and it will be lost if you do not understand how it is at stake, how much so, and how to save it.

She should be visited often—many times a day. A careful note should be taken of the state of her pulse; you should set down, on a sheet of paper, the rate of her respirations, and insert memoranda of all the great points—the doses of medicine, and the sensible effects produced by them should be recorded.

Remember, that when you feel the pulse, you do so for the purpose of knowing what the heart is doing, and that you have no other motive to touch it—absolutely no other; and that you will not always be able to ascertain what the heart is about by touching the pulse alone; therefore, whenever you pay a visit, examine the heart carefully; note the impulse, the force, the area, and by comparing the impressions made upon your mind through your fingers by the radial artery, with those conveyed by the heart itself, through the ear, endeavor to get a true and correct notion as to the general momentum and effect of the arterial circulation.

The arterial system, by injecting oxygen, develops in the brain, and the whole nervous system, the flash of life: where its injecting force is greater, the life is greater; where it is less, the life is feebler. Nearly the whole of your power to modify the rate of life in the organs and parts are powers exercised upon this very force of the circulation; and the physician never knows so perfectly the state of the life-force in his patient as when he gathers that knowledge from a perfect knowledge of the state of the circulation of the blood. Study the pulse, and let it be a constant study; it has been admitted of all times that a good pulse-feeler is, *quoad hoc*, a good physician, and that it is one of the greatest accomplishments of the medical station to know the pulse well; and why? Because, a knowledge of the state of the pulse reveals the state of the life-forces. To know the pulse may almost be said to constitute the Grundkraft of the medical ability. But, take heed that you be not pulse-feelers only.

You will suppose that your patient is doing well, if she has a moderate perspiration, occupying the whole superficies of the body; and particularly, if the perspiration have an unctuous feel. A very thin and watery perspiration is not so favorable; for, when it is unctuous it shows not only that the pores are free, but that the sebaceous follicles also are in a state of activity.

Your patient will be better, if the pulse is becoming less frequent, and at the same time losing its volume, after having been too large; or, if it is recovering its volume, and becoming less frequent, after having been too small. Your patient is becoming no better, if the pulse becomes more and more frequent; for its increasing frequency indicates an increased distress of the whole constitution.

Let me relate a curious case of the malady:—

Wednesday, May 26, 1852. Last Friday (21st of May), at 10 o'clock A. M., Mrs. D., aet. 24, primipara, had a convulsion, which was preceded by violent headache, for which the Doctor bled her twice before the eclampsia came on. He delivered with forceps; soon after which she had a second convulsion, and then no more—what, with venesection and leeches, he took sixty-five ounces of blood. The pulse was rapid all day; Friday and Saturday, Sunday and Monday, another physician attended with him, and on Monday I was called. Pulse 135 to 140; had been 160. Belly very tympanitic, resisting, sonorous, and painful; sensitive; respiration good; skin hot, wet, and pale; tongue clean; physiognomy good. I did not expect her to survive until 12 o'clock to-day; but at 9 P. M., she is, in all respects, better, save that the pulse is 140. Let us see whether a woman, with a pulse 140, on the sixth day of a childbed fever, shall live or die!

Thursday, 27th. 9 o'clock A. M. Pulse 140; pain in hypogastric and right iliac fossa; meteoration less, seems in many respects better; but, the seventh day of a 140 pulse is upon her, can she recover?

Friday, 28th. 9 o'clock A. M. Pulse 128. Tympany still great; but mostly in the small intestine: she seems much better; took, on the 27th, 12 grs. of sulph. quinia; very sore to touch in the lower belly; had a small blister on the right lower belly yesterday which filled well.

Saturday, 29th. Pulse 116; better in many regards; still has hypogastric pain.

Sunday, 30th. Pulse 112; very great soreness of the hypogaster; tympany.

Monday, 31st. Pulse, at 7 P. M., 120; seems in many respects better; but has a hard and very resisting body in the left iliac fossa, rising some four inches above plane of strait and extending to right of linea alba. This cannot be even gently touched, without great care, as even the lightest percussions give a positive pain. Is it *flatus*, or is it *depot?* We shall see.

Friday, 4th of June. The pulse, at 7 P. M., is 120. She is in all respects much better, except for this accelerated pulse, a very great ballonnement of the belly, and a hard and excessively painful lump, swelling, or distended gut that lies on the left anterior quadrant of the plane of superior strait. It is very sonorous on percussion, and the slightest tap hurts like the apple of the eye. This lump has not varied or changed one iota for nearly a week. I *do* suppose it is one of Puzos's *depots*.

June 5th. Seven o'clock P. M. Pulse 128; belly very tumid, pain and depot unchanged.

Monday, 7th, seven P. M. I did not see her yesterday. Dr. —— said

her pulse was 120 yesterday; now it is 116. The belly very much distended with gas; though soft and not painful, yet the hard swelling in the left side of the belly, near the brim, is exquisitely tender; the part is sonorous, but quite hard; it does not interfere with flexion and extension of the thigh. She has no abnormal heat; has appetite; very little milk, the breasts being quite flaccid. I presume she may get well by the resolution of the inflammation. As she seems to be better, I have retired from the call; but I have in vain persuaded my colleagues to give an aperient for many days. When I saw her first on Wednesday, June 26, I prevailed to give an aperient; but could not convince them that oil and syrup of rhubarb was proper, as Chaussier used it. They gave 47 grs. of rhubarb. I believe that since that time no dose has been given, except an occasional enema of soap-water, &c., &c. I have attended for thirteen days!!! Surely the poor woman would have had some more considerable relief by this time, if she had been purged with moderation—even now, on the eighteenth day, the pulse is 116.

I had retired from this case, but was recalled on the 12th. June 15th. Pulse 116; belly tumid; the swelling in the left iliac fossa the same, but not quite so tender to touch; great tympanitic sonorousness; could not prevail on them to give the aperient. They had given 4 grs. calomel and some castor-oil, which, they said, gave *one* watery stool. I am sure she has overloaded bowels, and that she is kept sick and in danger by that cause. She had, however, a pulse 92 this afternoon, and, I suppose, she may now recover, with or without doctors.

This patient at length recovered her health. I have related the case to show you its particulars, of which you can judge, and now proceed with my text.

If the woman's respiration become slower, deep, and long, and more equable, she will be better; if it be *saccadée*, jerking, requiring the aid of the accessory muscles, the sign is almost to be held fatal.

If the urine is abundant, the sign is good.

If the tympanitic distension of the bowels is growing less, giving to the integuments of the belly, relaxed after parturition, their usual soft fluctuating feel, instead of the hard, elastic, and swollen appearance which they before presented, it is favorable. If the abdomen become more and more distended, hard, intolerant of contact, the sign is bad. Nobody is better in a fever in whom the hypochondria are tumid. Here is one of the aphorisms of Hippocrates: "Febricitantibus, quibus hypochondriæ tument malum." Here is another: "Febricitantibus, quibus hypochondriæ non tument bonum." This aphorism was written four hundred years before the advent of the Saviour; it expressed the truth then, ever since, and now.

If the thirst diminish, it is good; if it become more and more insatiable, the sign is unfavorable. If the sensibility of the abdomen, as tested by pressure, grows gradually, and not suddenly less, the sign is good. But if the patient, having been extremely sore, ceases suddenly to complain, it is probable that she is nigh unto death; for, the cessation of the pain depends upon the sudden cessation of the disease: the disease was inflammation, and the inflammation having rapidly come to its last term by effusion, a copious effusion of lymph and serum and albumen into the belly has cured the *disease*—but the *patient* is about to die. The tension of the vessels of the brain, which gives the most intense pain, is relieved by the extravasation of the blood, which converts a headache into a fatal apoplexy: in our case the people will say that mortification has taken place. Why, a woman won't live in this malady until mortification takes place! She has not time for mortification to take place; she could not resist a state even approaching to it; therefore, in your autopsy, you will not find mortification.

In order to show you a prognostication upon the sudden cessation of the pain in puerperal fever, I am going to quote a case for you, which is enough to make one feel something like awe in the reading of it. It is the first case related by Gordon, that of Andrew Low's wife—No. 15 in his table. It is at the 37th page of Barrington & Haswell's edition.

"Case I. *John Low's wife*, No. 15 in the Table.—In the afternoon of the 19th of August, 1790, John Low, miller at Justice-mills, came to my house, requesting me to go immediately to his wife, 'who,' he said, 'had swooned after delivery, and was in great danger.' I accordingly went, and found her in a dangerous situation; she complained of an acute pain in the lower part of the abdomen, attended with a very great degree of fever, the velocity of the pulse being at the rate of 140 strokes in a minute.

"The disorder commenced with a violent rigor at six o'clock in the morning, being about thirty-six hours after delivery.

"I had no difficulty in ascertaining the patient's disorder, having had previous opportunities of seeing it both in London and in the course of my practice in Aberdeen, for this was the fifteenth case I had attended since the epidemic began, though the first of which I kept a journal. And, in every respect, the disease answered the description of that known to practitioners by the appellation of the puerperal fever, a distemper which so frequently proves fatal to women in childbed, baffling the skill of the most eminent physicians. As, therefore, I had so often seen the disease, I could not be puzzled in regard to the proper method of treatment; though, at the same time, I was well aware that I could by no means promise success.

"I accordingly ordered bleeding to the quantity of sixteen ounces, the abdomen to be fomented, and a glyster to be given; and, at the same time, I ordered large quantities of diluting drink. I likewise directed an anodyne diaphoretic draught to be given at night, and a cooling laxative the ensuing morning.

"On the 20th, when I visited the patient, I found the velocity of the pulse somewhat diminished, but no abatement of the other symptoms (the pain and tension of the abdomen remaining as before).

"The laxative given in the morning had the desired effect; the blood drawn exhibited a very thick inflammatory crust; the lochia were suppressed; the urine was scanty, and voided with pain; when recent, it was high colored, but when allowed to stand for a short time, it became exceedingly turbid.

"The fomentations were continued, and an opiate given in the evening.

"On the 21st, when I visited her in the morning, I was happy to find that she had been pretty easy throughout the night, and had enjoyed some hours' sleep. The pulse was 136. She was in a profuse sweat, which, I hoped, would prove critical, and, therefore, endeavored to promote it by small doses of tartar emetic in the saline mixture. But I was sorry to find that I was disappointed in my expectation; for, when I returned in the afternoon, I found that the sweat had disappeared, being succeeded by a diarrhœa.

"The patient now complained of very great pain, and the swelling of the abdomen seemed to increase. I ordered an opiate in a large dose, and applied a blister to the abdomen.

"On the 22d, I was sorry to find that the disease was making rapid progress, in spite of all the remedies employed; and, as I perceived that the diarrhœa was not proving critical (for the pain and tension were extended over the whole of the abdomen), and that the patient's strength was sinking, all hopes of recovery were now totally abandoned.

"The patient's agony was now extremely great, and called loudly for relief: I therefore thought proper to administer opium both externally and internally, on purpose to mitigate pain, if possible, to procure rest.

"I went early in the morning of the 23d, to visit my distressed patient, and found that the storm was lulled into a calm. The friends received me with transports of joy, vainly thinking that the danger was over.

"The patient, supposing herself perfectly well, asked my permission to rise; for she seemed to feel no pain, and suffered me to touch and press the abdomen, without showing any signs of uneasiness; a proof

that the parts were in a state of gangrene: for this sudden cessation of pain in the puerperal fever is a fatal symptom, which announces the approach of death, and denotes that a mortification has taken place. The friends, ignorant of this circumstance, were quite overjoyed to see the patient so composed, after such excruciating pain. However, notwithstanding this composure and apparent ease, it was evident, from the ghastly appearance of the countenance, from the tumefaction of the abdomen with the absence of pain, from the sunk state of her pulse, and from the coldness of the extremities, that death was not far off. Accordingly, in a few hours, the scene was closed."

Can one imagine a more distressing scene than this? How perfectly, how naturally, he paints it. I have looked upon such as it many times. It goes to the heart.

You will see that Gordon speaks of diarrhœa. I have not very often seen diarrhœa in patients affected with puerperal fever. I have, however, met with it occasionally, and have been surprised to discover the power of the bowels to transmit liquids—for these stools are always fluid ones, while several cubic feet of gases, contained in the alimentary tube, were obstinately retained there, keeping up the enormous distension and rendering the cure hopeless as long as it continued. If, when a patient has had a diarrhœa, it gives place to a more healthy character of the alvine dejections and a disappearance of the tympany, the sign will be good; but an increase in the frequency of the alvine dejections, and, above all, their occurrence without the patient's consciousness of the circumstance being excited, are signs the most disastrous; particularly where the belly remains much distended.

When a patient is going to die of this malady, it happens some time before the fatal event—some hours, or a day, or even two days beforehand—that she begins to have eructations. If these eructations are accompanied with a sound like hiccough—if they are singultiform, you need scarcely entertain the hope to rescue the patient from an impending fate. The eructations become more and more frequent; the fluid discharged may be at first whitish; it acquires at length a greenish tint, and everybody supposes she is bringing up bile; it comes at length to be a slight vomiting; she brings up a spoonful at a time—a wineglassful, a teacup full: it next becomes brown, and looks like fine coffee grounds; it becomes perfectly black—it is black-vomit. It is the black-vomit that accompanies the fatal serous inflammations of the abdomen: you will find it in almost all persons perishing from intussusception, from strangulated hernia, and various forms of enteritis. I have no doubt that when it begins, the serous coat of the stomach has begun to be inflamed; and that the inflammation, increasing in intensity, coin-

cides with the change of color, and quantities, of this ejected fluid. So that, at the last, that is to say, when she is bringing up half a basinful at a time of this vomito, her stomach is already half dead.

How painful it is to a physician to stand by at the commencement of these vomitings, and look through the dark vista along which the patient is seen by him to move; while the friends and acquaintances are filled with the cheering hopes of health speedily to be restored. Mrs. Low's friends received Gordon with "transports of joy."

If she has had an abundant secretion of milk, the secretion will be suppressed if she be violently ill with puerperal fever; and the abandonment of its duty by the lactiferous gland is a dangerous symptom, expressive of extraordinary constitutional disorder. The maintenance of the power of the milk gland is always to be held as of good augury in the case.

The total suppression of the lochial discharge is pernicious in its influence, and discouraging as a sign; the restoration of the discharge is hailed as a new attempt at recovery.

And now I have a few last words to say before I close this letter. You should never take your leave of a patient who has been confined, without giving the clearest, the most impressive directions as to circumstances that might render your recall necessary. The majority of these diseases come on in the night time, and many people are unwilling to awaken the physician, or even to call him at a very early hour in the morning; either because it is inconvenient to themselves to send, or that they dislike to give him the trouble to pay an extra visit. They will expect him to look after his accouchée, and are very apt to wait until the expected hour of his call; as to which, they may be subjected to disappointment, since his assistance, in person, may be required elsewhere, and since, having left his patient well at the last visit, he is apt to consider her still so upon receiving no communications.

You know Gordon says, that if you don't cure puerperal fever within the *first six or twelve hours*, you have little chance to effect a cure, and that the nearer you are to the time of the attack, the greater of course will be your expectation of success. I think I scarcely ever leave a patient, after she is put to bed, without addressing myself especially to her, and explaining to her the impropriety of taking anybody's advice as to her case, except that of her regular medical attendant. I tell her, that it is even very difficult for the physician to discriminate between the various forms of disease in their attacking stages, and that it is quite impossible for unlearned persons to do so. I endeavor to make her understand, that some of the forms of disease that affect lying-in women, perfectly curable, if treated promptly, may, in the course of

from six to ten hours, if neglected, pass entirely beyond the hope of recovery; and I say, "If you are sick during my absence, see to it that I be instantly notified of it. Don't consult with anybody as to the propriety of letting me know that you are indisposed. You have placed your safety in my keeping; it will be the last degree of injustice to me, should you be taken sick in the intervals of my visits, not to inform me thereof, but to take instead of mine, the opinion of a nurse, or of some acquaintance. I charge you, therefore, that you let me know, as speedily as possible, if anything should happen to derange your health." I give similar directions to the monthly nurse, and, if I have the opportunity, I ask the husband of the lady to watch over her, in order that I might receive the earliest information of any indisposition. This course I have pursued for years, and yet, up to this hour, I am unacquainted with a single household or an individual in whom I can trust on such occasions. If the lady is taken sick, the nurse, or the grandmother, or she herself, will explain it as after-pains, or as headache, or as rheumatism; though if the curable stage has been gone through before your visit, such signal disobedience of express directions, such enormous stupidity is apt to be followed by the loss of the patient; a loss so great, that there are no words in which I can set forth the mental distress it occasions. Please to understand, that if you scrupulously adopt the plan which I have above recommended, and should practice midwifery for half a century, you will scarcely find ten occasions in your whole life in which a prompt information will be communicated to you; and this it is that makes the life of an accoucheur more painful than that of any surgeon or mere general practitioner.

It is very singular, but it is very true, that physician accoucheurs are peculiarly subject to these constant anxieties and mortifications. A woman will send a break-neck message after you, and call you out in night and storm and tempest, because her baby has had a belly-ache, or possibly a green stool; but she will not send for you, perhaps, if she herself is standing on the very brink of the grave, as every woman is who is even threatened with this direful disease. She will ask the nurse to do something to cure her. Be not discouraged, however; the fault will not be yours, provided you should have taken all the precautions in your power; whereas, a heavy charge would lie upon your conscience should a patient be lost in consequence of inattention, on your part, in issuing the needful precautionary directions.

After the death of a charming lady here a few years ago, I sent to her husband a copy of Gordon's treatise. She fell a victim to the imprudence and stupidity of her nurse, who allowed her to pass through the curable stage of an epidemic puerperal fever, declaring that it was

only after-pains, which she understood as well as the doctor, and that she would not have the doctor sent for. "Haven't I nursed," said she, "for thirty years and more, and must I have a doctor put on me because you've got an after-pain? Non*sense!*" And so, when her physician, who had left her well a few hours before, was at length requested to visit her, he found the lady far gone—past all hope of recovery. The gentleman read Gordon, and when he returned me the volume, "Oh, sir!" said he, "why is it that this book is not to be found in every house? If I had read these pages sooner, I should not, perhaps, now mourn over my irreparable loss."

I could relate to you many histories, setting forth the importance of early information in this case. But it is time to close this letter, in which I have endeavored to give you what I regard as sound and wholesome views upon the subject of which it treats. If you will take my advice, you will buy Barrington and Haswell's book, and read it with the greatest care. And when you shall have read Gordon, Hey, Armstrong, and Robert Lee, if you will practice with ipecac. and calomel, and nothing else, I cannot be responsible for you, though I shall be very sorry for you. C. D. M.

LETTER XLIII.

PHLEGMASIA DOLENS; CRURAL PHLEBITIS.

Gentlemen: There is a disease of which I have not yet spoken, and which is vulgarly known by the term Milk-leg. It has been called by the writers *plegmasia alba dolens puerperarum*, or the painful white swelling of the lying-in woman. Some of the Frenchmen still call it *Lait rèpandu*, which is a translation of the English word milk-leg—a word employed to express the sense that the milk of the woman has fallen into her leg, and inflamed and swelled it. And I suppose, indeed, that in this nineteenth century, half gone as it is, you will have plenty of trouble to convince your patients that it will not be your duty always to get the milk out of the leg, or so to regulate your prescriptions as to provide against the effusion of more milk into the cellular tissue of the limb; particularly, if you should persist to call the disorder by the name of Milk-leg. It would be wise of you to denominate it crural phlebitis, which is its real name. I suppose you will laugh, gentlemen, at the idea of having milk in a woman's leg, for you

know milk is made in the breast, and not in the leg; it is pretty much like saying that a man has a salivation of his liver, or a diarrhœa of his kidney; in fact, it is sheer nonsense.

There are a great many doctors in this country—those who don't read at all—who, while they don't suppose that it is milk in the leg, yet persist in believing that it is inflammation of the cellular tissue: though no man ever saw one produce suppuration or sloughing of the cellular-tela, and though every man knows that when cellular tissue inflames, it is almost sure to suppurate or slough. I should like to see a woman get well of an inflammation of the cellular tissue of the whole limb from the crista of the ilium to the os calcis, and from the pubis to the metatarsal bone of the great toe!—one whose thigh is bigger than a man's body, and her leg swollen to the size of that of an elephant!—that is to say, get well without a suppuration, or indeed, in any way.

Some persons have supposssd that the swelling is produced by a disease of the absorbents of the limb; and, in fact, nothing was known about it until Robert Lee—the same Robert Lee of whom I have spoken so many times in these letters—made the discovery of it, and clearly demonstrated its true pathological nature; showing that the lesion in the disease is a lesion of the veins of the limb, whence he gave to it the name of Crural Phlebitis, the name by which it is now called by all physicians who know anything about it: it is called milk-leg only by those who know nothing about it. The old areolar doctrine of milk-leg is still taught by persons in high places.

Dr. Lee, in his *Essay on Crural Phlebitis* (Barrington and Haswell's ed., page 314), after having given a literary history of crural phlebitis in puerperal women, says: "It is a remarkable circumstance in the history of crural phlebitis, that nearly a century and a half should have elapsed, after it was first clearly pointed out by Mauriceau, before an opportunity was presented of ascertaining by dissection the precise nature of the disease. There had been opportunities, as I have shown, to determine the accuracy of the different hypotheses that had been advanced, but these were neglected, and the real nature of the disease, and its commencement in the uterus, were imperfectly understood, until I ascertained, by dissection, the true nature of the complaint." Dr. Lee's account of this dissection is in the *Medico-Chirurgical Transactions*, vol. xv., 1839.

The disease under consideration commences in the endangium of the crural vessels, and is the same malady which most frequently carries off the chirurgical patient who has been subjected to amputation of the limb. It is the same thing that happens to every bloodvessel, whether artery

or vein, around which you cast a ligature, and tie it for the suppression of hemorrhage. Fortunately, the application of your simple ligature develops only a sufficient amount of inflammation to effect the union of the disrupted endangium, and constitute a plug of lymph, fit to become a bond of union for the opposing walls of the vessel, and thus restrain the hemorrhage after the ligature shall have fallen off.

Crural phlebitis may begin before the termination of the gestation: I have met with several cases in which it occurred six weeks before the child was born. It may commence soon after the ending of the labor, or not until the woman has begun to move about her chamber; she is liable to it at any period within the lying-in month. A man is liable to it; so is a child;—it is by no means peculiar to the gentler sex.

Many of the cases of swollen limbs that are looked upon by the Doctors as œdema, coming on at the close of great chronic visceral diseases of the belly, such as enormous enlargements of the liver or spleen, or great heterologue glands, that are developed there; or cancer of the stomach—many of these swellings, I say, are not œdema, as the Doctors suppose, but they are crural phlebitis. I have known them to be so at the beginning, and have proved them to be so after death; for I have found the great crural veins and internal iliacs filled with lymph and pus, and coagulated blood, and in some instances totally obstructed. Dr. Lee has found some puerperal cases in which the great crural vein, in returning into the body has been lost, like an African river in the sands, no trace of the vessels being left by the ravages of disease, which had extended from the endangial lining into the circumvolved tissues within the abdomen.

Now, gentlemen, see a limb supplied by a great femoral artery and profunda, with its anterior and posterior tibials, and all the other branches: imagine these arteries healthy, strong, perfect in structure and volume; and see a current of blood, driven into them by the contraction of the heart under the powerful injection-force of a great fever; and then imagine the femoral vein or the saphena obstructed by thickening of its endangium; by quantities of plastic lymph which has exuded from the inner wall; by strong, firm coagula of blood, which have been arrested on its now irregular surfaces; by a quantity of serum exuded between the outer or fibrous coat of the vein and the cellular sheath in which it runs, so as to give you the feeling, when you pass your finger from Poupart's ligament down the limb to where the vessel pierces the triceps muscle, as if the finger were pressing upon a body as large as a man's thumb, and as hard as a stick. Now, tell me, what is to become of all the blood thrust into the limb by the injection-force of an infuriated systemic ventricle; and how is it to get out?

How is the woman to avoid the great swelling of the limb, which you call phlegmasia alba, or milk-leg, but which you would better call crural phlebitis? Is a vein anything more than an efferent duct?

It is impossible to suppose such a condition of the vessels without conformable swelling; for the vein which carries blood from the limb is virtually compressed, as if you had tied it up with a ligature preparatory to bleeding it. The vein is as if you had put the pad of Petit's tourniquet upon it, leaving the artery perfectly free and unobstructed. But it is not the crural vein alone that suffers in these cases; the inflammation not unfrequently extends into numerous superficial branches, which become extraordinarily sensible to the touch, and hard; evidently containing within their cavities quantities of coagulated blood.

But, the disease is called phlegmasia alba *dolens*. What makes the pain? Don't you know that the femoral artery, the crural vein, and the great crural nerve, constitute a fasciculus, and that they are bound up in a common sheath or theca, until they reach the point where they perforate the triceps to get into the ham? Well, then, the inflammation of the endangium of the crural vessels dips through the fibrous coat, and causes the infiltration I spoke of into the common sheath of the fasciculus; producing the long, hard, cord-like swelling extending from Poupart's ligament even into the ham. The whole crural nerve is thus compressed, gentlemen; but if you compress the crural nerve, won't the woman have pain? Won't she have neuralgia? Well, the sensibility that the woman has, and the pain that she suffers in crural phlebitis, are essentially neuralgia from pressure on the crural nerve.

The veins in the interior of the body are, for a long time, compressed by the gravid uterus; and sometimes, compressed with great force, which is increased enormously in the throes of labor. They are not only compressed, so as in some instances absolutely to suffer contusion, but the whole of the veins of the lower extremities are, in many women, for a long time distended by the pressure of the womb, causing œdema gravidarum, and that very common occurrence, varix gravidæ. Such a constant, long-continued pressure upon the vessels might well be supposed to have, in many instances, the effect of developing an inflammatory state there; this would be endangitis. But the endangitis is more likely to affect the veins below than those above the point of pressure. There are many cases in which inflammation, commencing in the branches of the uterine veins, and spreading along the endangium to the internal iliacs, passes out beneath Poupart's ligament, along the external iliac to the femoral, and thence to all the veins which become subject to it in the leg. It will be first suspected by pain felt at the groin, or in the calf of the leg. I am very sure that, in many of the cases I have met

with, my first detection of the existence of the malady was made in consequence of complaints as to pain in the calf of the leg. When a woman who has been confined, or who is pregnant, tells me she has a pain in the calf of her leg, I put a thumb upon the spine of the tibia, and the fingers upon the calf, and then suddenly compress the gastrocnemii and soleus against the bone; if the woman shrinks from the pressure, and makes an outcry, I next ask permission to examine the groin; and if I feel the swollen ridge of the theca of the vessels, I know that my patient labors under crural phlebitis. I then examine the external iliac, by putting my hand on the same side of the hypogaster, and pressing the teguments against the brim or strait of the pelvis as far as I can push them—when I am very sure to detect the evidence of inflammation extending up into the body, if it goes so far inwards.

The calf of the leg will be found hard. Let the woman lie upon her back, and be directed to draw both of the knees up in the bed until the tibiæ become nearly vertical: if you now take hold of the calf of the leg, lightly from behind, and endeavor to shake it from side to side, you will find you can't shake it, for the whole mass seems attached to the bone, or packed against it. If you shake the other calf, it will be perfectly flabby and movable in your hand; the result of this comparison will settle the diagnostic.

As you will have to treat the case, you ought to be able to make comparison of its progress from day to day; to which end, take a piece of broad tape, cast it around the thickest part of the calf of the leg, measure it accurately, making a mark with a pen or pencil upon the tape, to show the exact circumference, with the date inscribed. Let this tape be carefully kept by the nurse for future reference; and let this measurement be repeated from day to day.

If you detect the disease in its formative stage, or in its earlier stages, you will find it before there has been much swelling, particularly of the thigh; and you should announce that the thigh will become enormously swollen, provided your treatment should not succeed in assuaging it. There will also necessarily be fever, or the expression of constitutional distress, from so great and so painful a malady.

And now, gentlemen, as for the treatment. It is rarely proper to bleed for this disease; because the disease is seldom detected until one of the terminations of inflammation has been reached. I say one of the terminations of inflammation, for the termination of an inflammation is reached, first, by resolution—second, by effusion—third, by suppuration—fourth, by adhesion—fifth, by sphacelation and mortification. But, when you find this great ridge, extending down from the groin, it is

because effusion has taken place already; and, therefore, the bleeding stage has passed by. It may be useful to apply some leeches along the course of the swollen theca, because a topical depletion tends to prevent the further exterior or circumferential progress of the malady; yet it will have very little influence on the essential or endangial disease.

But, perhaps, gentlemen, the best and most efficacious of all remedies is position, used in the chirurgical sense—I ought, perhaps, to say rest and position. The patient is to be absolutely confined in a dorsal decubitus; the whole limb to be placed upon pillows, or upon a bolster, so arranged as to incline the leg upwards at an angle, not above 7° or 10°. She should be told: "Now, madam, if you dare to put the foot upon the floor, even after you shall be almost cured of this disease, you will scarce fail to reproduce it with all its intenseness: the peril and the pain will be yours. Look to it, that you incur them not." Is not it very clear that if she puts her foot to the floor, and stands upon it, she will have to lift the whole column of blood in the veins, from the sole of the foot to the cardiac extremity of the vena cava, at the expense of the most enormous strain upon the sides of the sick vessels? It would be the grossest malpractice to allow the woman even to sit up on a sofa until the limb is safe.

Our great and learned surgeon, Dr. Physick, used to be proud of the certainty with which he treated cases of phlebitis by HIS method. Dr. Physick's method was to apply a blister, covering the whole diseased tractus of vein, a little wider than that tractus. If you will take my advice, you will not neglect it; for of Dr Physick's practice it may be said, "*Nil tetigit quod non ornavit.*"

Well, what is the next thing to be done? The limb is to be stuped, which should be done in this way: procure an old flannel petticoat—there is always a petticoat to be found where there is a woman—cut off the gathers and the hem; dip the flannel petticoat—the whole of it—into a large basin filled with equal quantities of vinegar and boiling water. The liquor should be very hot. Let the petticoat be wrung out, as hard as four strong hands can possibly wring it, and with it let the whole member be carefully enveloped. To prevent the moisture of the fomentation from wetting the bedclothes, a piece of blanket, or some oiled silk, should be spread beneath it. A blanket is better, for the blanket can be rolled over the whole stupe, keeping up its temperature and its moisture for a long time.

My custom is to keep up the stuping for six consecutive hours; after which, as the woman becomes tired of it, I cause the member to be gently bathed with a mixture of warm sweet oil and laudanum, carefully wrapping it up afterwards in fine flannel; and after leaving it so,

about four hours, the stuping is recommenced, and continued for five or six hours; and so, I alternate the stuping, and the inunction with the oil and laudanum, until the swelling has abated, or until I can *shake the calf of the leg*. After which, I inclose the limb in a common roller bandage, for the purpose of facilitating and hastening the absorptions.

When the woman has got well, I let her walk about; but I always make it a rule to tell her that her vein is reduced in size, and that it is no longer capable of carrying off from the limb, with the same facility as formerly, all the blood thrown into it by the arteries; that if she will throw into it excessive quantities, by walking about too soon, or too much, she will have a swelled leg. Sometimes the leg continues swelled for thirty years; I have seen it so. Why should it not? The caliber of its vein is diminished, and in some instances destroyed. Where it is totally destroyed, the woman can never expect to have the limb as small as it was before the malady—she has lost the principal vas efferens of the leg—she should be thankful to God for her escape with existence.

No prudent man would lay aside the charge of such a case without directing his patient to wear a gaiter—to come up above the knee—for several months after the cure.

C. D. M.

LETTER XLIV.

PUERPERAL CONVULSIONS.

Gentlemen: Among the numerous sources of that anxiety to which the practitioner of midwifery is exposed, is the dread that he often feels lest his pregnant or parturient patient should be attacked with eclampsia or puerperal convulsions. I say the practitioner of midwifery—for I presume that it will be found in general true, that he who has much professional business in the line of those maladies that are called Diseases of Women, will be also an Obstetrician.

Puerperal convulsions, or eclampsia, from ἐκλαμπτις, a flash, is a convulsion affecting a woman advanced in pregnancy, or in labor; or one in the first days of the lying-in.

It is a malady that is not met with every day—but it is one so horrible in appearance, so deadly in its tendency, so embarrassing some-

times in its treatment, that, although, as I said, it is not met with every day, it is solicitously looked for, and probably obviated in many a case which, but for such careful supervision, would swell its proportions in the statistical tables.

To show you the relative frequency of the attacks, in a given number of labors, I refer you to Dr. Collins's *Midwifery*.

Among the whole number, 16,414 labors, under his care, there were thirty cases of puerperal convulsions—of which twenty-five recovered, and five died. This shows you that one woman out of every 547 was attacked with the disease. How many others were guarded against the threatened attack cannot be known; since many of them may have been menaced whose cases, having ended happily by being averted, do not appear in the statistical result. Out of 20,357 labors, under the care of the late Madame Boivin, at the Maternité, at Paris, the number of patients affected with eclampsia was nineteen. So that, out of every thousand women in the Maternité, one was seized with the disease. Dr. Churchill (*Midwifery*, p. 447) has collected tables of 96,903 labors, in which 159 cases of convulsions occurred; giving one in 609.

These results, if you depend upon them, will mislead you in practice. They do not at all represent the risks that women run from this cause; for in fact, if you become wise, sagacious, and prudent practitioners of midwifery, you will avert the attack in a very large majority of the instances that would, but for the precautions made use of under your administration of them, add to the ratio in the tables. I have met with a good many samples of eclampsia in the course of my obstetrical practice, but I am very sure that I have prevented a far greater number of attacks than I have witnessed. Some of those that have fallen under my observations were wholly unexpected; sudden as a flash. Others came on after a long and anxious expectation of them, or after the careful and persevering employment of all the prophylactic means within my reach. Those means, in a far greater number of cases, have been employed where I had good reason to expect convulsions; but where no convulsions occurred. I did suppose that the remedies had hindered the attacks, and I still believe that they did so. Perhaps, however, I have many times indulged vain fears for the safety of my wards, and subjected them to treatment that was unnecessary.

Upon consulting my case-books, and taxing my memory, I find that I have observed twenty-nine instances of puerperal convulsions; and my colleague, Dr. Huston, your Professor of Therapeutics and Materia Medica, informed me in 1844 that he had observed thirteen cases. Of those under my observation, twenty-four recovered, and five died. Dr. Huston's cases show eleven recoveries, and two deaths.

Primipara women are most liable to eclampsia; but all parturient women are liable to the invasion.

Of eighty-five cases that are mentioned in the work of Collins, seventy-three were observed in primipara women.

Women with short necks; those who are fat; those who possess considerable muscular strength; those whose tissues are firm, solid, hard, and unyielding; those that are of a sanguine-nervous temperament; those who have swollen feet and hands, and such as, upon waking in the morning, complain of numbness in the hands and bloating of the features; those who are affected with a feeling of great weakness, or with loss of sensation in one side of the face, or in one of the members; those who have suddenly lost their hearing; those who have vertigo, cephalalgia, muscæ volitantes, flashing of light within the eyes, dimness of sight, double vision, or half sight; those who have sudden loud noises in the ears, and such as feel as if a violent blow had been received upon the head; those, furthermore, who labor under intense anæmia, with distension of the bloodvessels and heart—all such are to be held liable and should be closely observed and protected.

Puerperal convulsions consist of violent, irregular, non-spontaneous innervation of the voluntary muscles, characterized by strong rotation of the head to the right or left, and backwards, with violent jerking contractions of the muscles of the upper and lower extremities, the back, and the abdomen. Spasmodic action of the diaphragm and muscles of expression, very rapidly repeated, always attends it. The lips and teeth are firmly closed and opened by turns, so that the rapid and violent breathing produces a loud, peculiar hissing sound. The tongue, which assumes a very dark livid color, and is almost in every case thrust forward between the teeth and jaws during the paroxysm, is often found to be severely bitten. The wounds of the tongue permit the saliva, and mucus of the mouth and throat, to be tinted with blood, which flies to a considerable distance through the compressed lips, staining the patient's face, her dress and pillows, and adding to the horror of the spectacle.

The rapid convulsive movement of the diaphragm, being accompanied with spasm of the glottis, the blood of the lungs does not receive the benefit of a true and loyal respiration. It does not get its full dose of oxygen, but is hurried off imperfectly decarbonated to the systemic auricle and ventricle, whence it is injected black into the brain and the whole system. The darkening hue of the countenance; the deep venous tint of the tongue, and the blueness of the hands and feet, show that the patient is passing into a state of asphyxia; and she does blacken her blood more and more, until the brain, no longer receiving oxygen suffi-

cient to extricate the nerve stream, the convulsive innervation ceases from want of the means to extricate any longer the nerve-force, or neurosity, as Dr. Cerise calls it.

During this extraordinary scene, one in which the organs that are innervated by the pneumogastric nerves chiefly suffer, the powers of the hemispheres and tubercula quadrigemina experience a temporary abolition, or rather, suspension of power. And it is a curious reflection, that those important parts of the brain should be quelled into a sort of temporary death or oblivion, while the spinal cord and the cerebellum, which are the sources and directors of the motions, and also the medulla oblongata which gives origin to the respiratory nerves, should be the seats of that intense though irregular evolution of power, whose effects we witness in the writhings, and contortions, and agonies of the eclampsia.

It is also a curious circumstance, and one well worthy of your attention, that the blackening of the blood, or its conversion into venous blood by the interruption of the respiratory or oxygenating function, should be the means provided and designed by Providence for the cure of the paroxysm. When the whole sanguine mass has become carbonated, the brain and the spinal cord must cease to innervate the muscles convulsively; and the speedy relaxation of every rigid muscle permits the restoration to the lungs of their oxygenating power; for while ever the muscular system is convulsed in the spasm, the movement of the mass of the blood is greatly modified by the alternate violent contraction, and the relaxation of the muscles, a modification that ceases as soon as the muscles come to a state of rest—so that, in a few moments after the countenance has been black and deformed in every feature, you have the pleasure to see it recover its whiteness, though ghastly pale; while the brain, I mean the whole brain, wakes up to the renewed performance of its organic as well as its intellectual offices. When, therefore, in looking upon these frightful scenes, you see the face of your patient growing darker and darker, you will discover in that very circumstance the hopeful announcement of a speedy close of the distressing exhibition.

I think that, in a majority of the cases, you may expect to find the whole brain recover soon after the ceasing of the convulsive innervations; but this is not always the case; for, in some patients, I have noticed a profound coma to succeed the convulsions; the hemispheres, the cerebellum, and the tubercula quadrigemina, remaining oppressed and extinct, as to power, while the medulla oblongata and the spinal cord had resumed a quasi regular exercise of their forces.

In a case that fell under my care in this city a few years since, the lady had convulsions, which occupied the hours from about 11 o'clock

A. M. till near 5 P. M. During these convulsions she gave birth to a dead fœtus of seven months; remaining wholly unconscious during the process. I say unconscious, though she moaned a little, during the labor-pains, like a person disturbed by some distressing dream, or like one under the influence of ether in a surgical operation. Some hours after the last convulsive attack, and after she had been lying profoundly still, as if asleep, she moved with spontaneous or voluntary motion, showing that the cerebellum was aroused to its true office of directing or co-ordinating the power extricated in the brain and spinal cord. She soon afterwards spoke and recognized the voices of friends, and was perfectly reasonable; showing that her hemispheres had waked up to their office of intellectual perception and combination. After having for some time spoken, and spoken well, she said: "How dark it is—why do you keep it so dark?" "It is not dark," replied I, "do you not see the candle?" "Oh no, there is no candle here." "Yes, dear Mrs. ——, here is the candle—see, I hold it just before your face." Her beautiful eyes were open, and she turned them at will, to look for the light which shone into their large dark pupils. "Do you not see the light?" said I again. "Oh no, doctor; why do you say so? I'm sure there's no light here." She was totally blind: that is to say, her tubercula quadrigemina were still oppressed, while the rest of her brain had recovered, being liberated from the thraldom of the congestion. After some time, the dawning light of day having considerably increased, she perceived it, and cried out: "Why, it's daylight!" and I then knew that the tubercula quadrigemina had also recovered.

There is a useful moral in this statement—it is that we should look to it, in the conduct of all such cases of disease, that all the parts of the brain recover—and that in so far as our measures may have efficacy, we fail not to employ them to the entire subduction of even the last vestiges of morbid action, or oppressed or suspended power. These vestiges of disease we may clearly discern in the intellection, and in the muscular innervations.

The successive recovery of the different parts of the brain in this case is interesting, as it is analogous to the incidents observable under etherization. When a patient is subjected to the inhalation of ether, the different parts of the brain are affected in succession; but not always in the same succession. The sensitive cords of the cerebro-spinal axis are, in etherization, plunged into a state of insensibility—leaving the hemispheres capable to perceive and understand what the quadrigeminal tubercles see of any operation that the surgeon is performing. Or, the motor fibres are put asleep, yet the sensitive ones communicate

to the conscious mind the painful impressions made on the nervous mass —which it forgets, however, as it forgets a painful dream.

If the etherization go very far, the hemispheres, the cerebellum, the tubercles, and the motor and sensitive cords are all hushed in a state of profound aperception, including both the direct and the reflex influences or impressions: the medulla oblongata alone continues to do its work of irradiating the parts that are under the control of the pneumogastric. If the ether be given long enough, and in quantity sufficiently great to quell its force of innervation also, the patient dies. Hence the medulla oblongata is called by M. Flourens the life tie—the vital knot—*le nœud-vital.* The oxygenating power depends upon it, and without oxygen—no neurosity. Take away the ether in good time; admit the pure atmosphere to the lungs, and the functions of the whole brain are revived—so, in our eclampsia, as soon as the abnormal state of the encephalic circulation gives place to a normal, or, one more nearly normal, the brain wakes up to its duties again, and the patient sees, hears, speaks, and acts with the most perfect co-ordination of all those vital forces that are dependent on the brain and cord.

If, in etherization, you press the administration of the drug to the point of quelling the vital-tie of the medulla oblongata, the patient will die, and you will find no necroscopic lesions in the encephalon. So, likewise, in the speedy dissolution under eclampsia puerperalis, the autopsia discloses no lesion of any part of the brain. Are you surprised that the woman should die without perceptible physical lesions of the brain? You are not at all surprised if she disclose none such when destroyed by ether-inhalation. May not the brain perish under the influence of carbon as well as under the ether, and yet, dying, leave no sign? In eclampsia, there is always abolition, for the moment, of the power of the hemispheres, always of the tubercula quadrigemina, and always (perhaps!) of the cerebellum. All these revive, and are extinguished again and again, as the paroxysms are repeated or suspended by turns. When the case has come to its close, and the patient is restored, where are the lesions? No trace of them remains. But—and here is the explanation—if the medulla oblongata be affected equally with the other members of the encephalon, the patient dies outright; because the sources of the respiration are then cut off.

There are many circumstances, the concurrence of which tends to the development of the eclampsic convulsions of pregnant, puerperal, and lying-in women. For many women, the whole state of gestation, from conception to labor, is a state of nervous excitement or hyperæsthesia, which renders the subject specially obnoxious, under the application of exciting causes, to convulsive or irregular non-conformable

innervation. Whether this too susceptible nature depends upon an altered crasis of the neurine, or whether it arises from modifications of the blood developed during the gravidity, remains to be ascertained; and the subject contains questions full of interest to the pathologist and the therapeutist.

The sensorial system does certainly, in many pregnancies, suffer from the intrusion, pressure, and displacement that coincide with the immense augmentation of the volume of the uterus, which thus offers a perpetual provocation to what is termed irritation.

The globe of the womb, when it has attained a certain volume, presses by its weight and mass (and is by the abdominal muscles pressed) against the ventral aspect of the spinal column, as Deventer proposed. But the great vascular trunks that lie along the front of the vertebræ suffer compression by this vast womb; and in the primipara woman, whose abdomen resists the extension of its walls, the uterus is pressed strongly against the aorta and the cava; more strongly than in those who have been many times pregnant. But if, in labor, the patient in order to assist in the expulsive efforts of the womb, should *bear down* by contracting her obliquus, rectus, and transversalis abdominis muscles, while the womb is at the same time hardened by the contraction or pain, those great sanguiferous trunks must be so much compressed as greatly to lessen their caliber, and so diminish the flow of the blood through them.

This effect is demonstrated in the swelled or infiltrated limbs that we meet with in the last stages of pregnancy, the œdema gravidarum, of which I shall here say nothing more, having given a full explanation of its causes in my letter to you, No. XXXVIII., to which I refer you. Now, if to the habitual over-distension of the encephalic blood-vessels we superadd the immense determination to the brain caused by the straining efforts to bear down; by the hope; by the expectation; by the disappointment; by the stings and agonies of the labor pains; by the heated and quasi febrile condition of the whole mass of the blood; by its augmented momentum and velocity; what wonder is it to find that the nerves of the spinal cord, both motors and sensorials; that the par vagum, and the phrenic; in short that the cerebro-spinal axis, overstrained, overheated, overstimulated, overcharged with blood, should yield to the coincident action of so many causes, and manifest its distress in the convulsive innervation of the muscular system, and in the temporary suspension of the perceptive faculties? and further, that the paroxysm being overpassed, the patient should speedily feel as if nothing had happened? Or what need have we for surprise if, the patient having perished in the attack, we can discover in some

cases no marks of pathological action in the brain, whereas, in some other samples we find the evidences of sanguine extravasation or of serous effusions in the encephalon, under the wild impetuous and irresistible rapidity, volume, and momentum of the cerebral circulation? A reviewer of the first edition of these letters has dissented from this view of the pathogeny of eclampsia, and expressed his surprise at my rationale of the processes by which convulsion is induced in puerperal women, which he prefers to account for on the theory of a dyscrasy of the blood connected with the state of pregnancy. I am, nevertheless, not the least inclined to accept his explanations, for while the mechanical pressure and obstruction I have pointed out continue to exist, I feel sure that we have reason to dread the influences of excessive determination to the brain.

A woman in puerperal convulsion is one in whom the production of the neurosity is augmented beyond the control of the will, both exceeding the normal rate of production, and losing the healthful regular distribution. Such a state endangers the brain which produces it—it endangers the lungs that are also essential to the production of it, and the circulation which supplies the brain with its oxygen, its pabulum, its tension, and pressure. The great nerve-centres, connected by the sympathetic and ruled by the par vagum, are overthrown and trodden under foot, as it were, in the *melée;* and life becomes extinct from exhaustion, from engorgement, and from shock; for all these causes combine to extinguish the vital flame; and our necroscopic inquiry shows, in most cases, all the physical structures unaltered and even intact.

The inferences I deduce from these representations is, that our prophylactic, as well as our therapeutical ordinances, should be based upon an intention to save the brain. How? By hindering or curing that augmented momentum and determination of the blood to the brain, which is the most essential element of causation in our disease. How is this to be effected? By controlling the heart's action by the use of venesection; by obviating excitement by laxatives or enemata, laving the hands and face with cool water, cool drinks, cheering assurances, order and quiet in the lying-in chamber; by abstaining from too frequent touching; by prompt delivery of the woman, or by ceasing from premature attempts to deliver.

A woman in labor, or one near her time, before or after delivery, who complains of headache and other cerebral phenomena is always to be esteemed as *upon the point of an eclampsic attack;* and the medical adviser should look to it that the attack be not formed. For many years past, I have never heard a woman complain of headache in labor,

or soon after or before it, without at once making this reflection. Occasionally, upon hearing such complaints, I have been induced by motives which at the time I deemed paramount, to abstain from very direct interference, and I have almost invariably had cause to rue such determination. And I venture here to predict that, if you, in like manner should, without regard, pass by similar complaints made by your patients, you will have abundant cause for regret. It may be that, upon hearing a woman in labor complain of headache, I may, on a very few occasions, have had no cause subsequently to lament that I disregarded it. However, the impression upon my mind at this moment is, that whenever I have so disregarded the complaint I have had to treat a case of convulsions, that I might readily, perhaps, have postponed, or wholly averted by giving to it the attention it really demanded at my hands. Within a year, I sat at the bedside of a lady in labor, which was making a perfectly satisfactory progress. After a pain that she had, she said to me, "Oh! how my head aches, doctor." I immediately rose, and examined her pulse—for in her preceding confinement she had a frightful attack of eclampsia, on account of which I had bled her to a very large amount. Her health had never been very good since, whether in consequence of the derangement of her nervous system that expressed itself under the form of convulsion, or whether on account of the large abstractions of blood. As she approached the term of the present gestation, she had repeatedly complained of headaches; flashings of light; tinnitus aurium; suffusions of the face and forehead; on which account I had dieted and bled her, so as to have placed her, as I supposed, in a condition favorable enough, as regarded the expected conflict of labor.

When she now complained of this headache, I inquired as to its degree, place, &c., and as it very soon went off, I was averse to ordering the further loss of blood, the more particularly as the child was quite near being born. I *did not* bleed her. She had two or three consecutive pains, after each of which the headache returned, but it was slighter. I resumed my seat, in order to take care of her at the moment of the delivery. A pain came on, and with it a short, quick, loud, hissing sound from her lips; her head rolled strongly in extension to the left; her hands, arms, lower extremities, and indeed all the voluntary muscles, as well as the diaphragm, were in the most intense convulsions. I am as sure as that I am now recording these events, that she would not have had the convulsions, had I bled her ad deliquium, when she first said: "Oh! how my head aches, doctor!" The convulsions were repeated, so that she lost her life, to my great and lasting regret.

Perhaps some of you may be inclined to adopt the opinion that in the management of a labor in which, by the physician, fear is entertained of eclampsic seizure, there is danger of its being brought on and not averted by the use of the lancet, agreeably to the reasons set forth by that able and distinguished physician, Dr. Henry Holland, in his *Medical Notes and Reflections*. Dr. Holland, at p. 52 says: "The use of the lancet is easy, and gives a show of activity in the practitioner, at moments when there appears peculiar need of this promptitude; current opinions and prejudices are wholly on the side of bleeding; and the complexity and danger of the cases tend to obscure the results of the treatment pursued. The physician needs all his firmness to decline a practice thus called for; when the event is so doubtful, and where death may be charged upon his presumed feebleness, or neglect." Dr. Holland, while making these remarks, nevertheless recognizes, "in the fullest sense, the value and need of this remedy promptly and vigorously used, in various cerebral diseases, or in prevention of such, where well-marked symptoms lead to their anticipation."

Should you admit any apprehension as to the liability to invite, instead of preventing the epileptiform convulsion of labor, by venesection, I trust you would take into consideration the very peculiar condition of the parturient patient, who is rarely found able to disembarrass herself of the fruit of the womb, without a most intense application of voluntary tenesmic force in addition to the mere normal uterine power; and, that the exercise of that voluntary force is invariably attended with the signs of augmented encephalic determination. The sound and philosophical cautions of Dr. Holland, therefore, cannot apply to the instances of epileptiform attacks or menaces for the parturient woman, however earnestly they ought to be inculcated for some, nay, many of the extra-gestative cases.

M. Flourens's experiments on the brain have thrown so clear a light on the symptoms that attend the encephalic disorders, that the path of the therapeutist is made straight for his successors. To show you clearly what is the nature, and what the appropriate treatment of our disorder, I ought, perhaps, to present you an abstract of his results. But, in fact, I have already done that for you, in placing within your reach M. Flourens's little tractate, called *Phrenology Examined*, a book which you could not read (and one may read it through in an hour), without finding much of the difficulty both of comprehending and treating puerperal convulsion obviated, or indeed nullified.

M. Flourens's results, then, can be applied to the diagnostication of the state of the brain and its several parts; and when you see the co-ordinating brain (the cerebellum), exerting its force abnormally, while

the reasoning brain (the hemispheres) is either in a natural state, or stupefied with coma—and so of the other parts of the brain—you will readily decide as to whether the signs demand, or forbid, the use of the lancet.

If I were treating a woman in labor, seized with the true puerperal convulsion, I should *certainly* bleed her—provided the convulsion did not cease before I could effect my purpose—and should I, in any such case, open the vein, I should surely allow the stream to flow as long as any convulsive innervations were left unquelled. Provided the convulsion should return again, I should bleed her a second time, and allow the blood to flow until the spasmodic and convulsive phenomena should have again disappeared. I do not say I should do so a third time, and a fourth, though I have done so heretofore. I should act thus, because I cannot conceive of *such* a convulsion in a person who has been sufficiently exhausted by venesection—since in such a person, the brain would be left incapable of issuing a sufficient amount of nerve-force to give rise to the eclampsic phenomena.

In November 1849, a lady about twenty-four years of age, six months gone with child, and who had been convulsed in a pregnancy at seven months, about thirteen months before, went out to walk in the forenoon. At one o'clock, she stepped into a shop to make a purchase. She complained of the heat of the apartment, and took a seat; in a few moments she was seized with eclampsia. Being placed on a sofa, she had four other convulsions, and did not recover the least sensibility in the intervals. I saw her more than two hours after the first seizure—she was then pulseless, cold, breathing very feebly and like one dying—the fingers of a dark purple hue, and the face deadly pale. She had been cupped on the head, and had sinapisms freely applied. In a few minutes the pulse began to beat again, and the respiration to re-establish itself. As the pulse got up, I perceived that the circulation might soon become so impetuous as again to bring on the eclampsia, and was about to say so and to propose to bleed her from the arm, when she went into a violent fit, which was the sixth of the series.

This attack terminated after some minutes; but not until the medulla oblongata had nearly ceased to exert its power over the respiration. Indeed, I felt convinced that she would not breathe half a dozen times more, so near was she apparently to the moment of her dissolution. I was surprised to find the pulse, however, beginning again to creep in the wrist—the breathing to improve in force, and in some six or ten minutes after I had deemed her to be drawing her last breath, to begin to breathe actively. I now proposed to take blood, which was agreed to by my medical friends, and the loss of some eight or nine ounces, *pleno rivo*,

quelled the dangerous arterial reaction. She had no more convulsions. At 10 P. M. she spoke for the first time, having a confused perception of the presence of her friends. Many days afterwards she was delivered of a premature child, which was dead.

I have mentioned this case, in order that you should not be discouraged even in very advanced stages of this dreadful disorder, from making use of the lancet wherever you can discover the indications for controlling the excessive momentum of the blood in the arteries.

After bleeding the patient, I should deem it, in almost every instance, proper to procure a copious alvine dejection, by means of an enema—one, or more. The article most suitable, because it is the most convenient, is common salt dissolved in warm water: two large tablespoonfuls of salt, dissolved in a pint of water, should be thrown into the rectum. This is so very powerful an excitant of the bowel that it may be expected to operate within a few minutes, but it should soon be repeated if the first dose fails.

Upon the operation of the enema, a judgment may be formed as to any further necessity in the way of procuring alvine dejections; and whenever it is ascertained that enough has been effected, advantage ought to be taken of the counter-irritant and revulsive power of the sinapism—accordingly, two large sinapisms, one to each leg, ought to be applied, and left *in sitû* for some thirty minutes—not longer.

The next step should be to administer the opium. Everybody now gives opium in puerperal convulsions, as soon as the depletion has been carried sufficiently far and the bowels have been relieved by the enema.

A good dose ought to be given, say forty drops of laudanum or twenty of the black drop; or two grains of powdered opium; or fifty drops of laudanum as an injection—fifty drops of laudanum mixed in a fluidounce of clear-starch is the proper mixture.

If the coma, with stertor, continues, the question will arise as to cups or leeches to the temples: let that question be settled by careful inquiry as to the state of the circulation in the brain. Such applications are often useful.

The head should be kept cool. This cannot be properly done if the patient have a great quantity of hair. The hair, then, ought to be sacrificed. It should always be removed in eclampsia; and an objection will never be made when the physician speaks with the proper tone and authority. To cut off the hair, and cover the head with an ice-bladder, or with cloths strongly wrung out of cold water, is indispensable. The cloths should be frequently changed.

The doses of opium ought to be repeated from time to time, as long

as the mind of the patient, and her muscular actions, continue to exhibit the direct influence of the paroxysm. But, when the reason returns, and the intelligence is re-established—and when the convulsive innervations of the muscles are at an end, there may be no further occasion to repeat the doses of opium—or at least, no reason for continuing them at the same rate.

I am not writing a book on Obstetricy, and I shall therefore not speak of the delivery, except so far as to say that the woman ought to be delivered as soon as possible; because, the child being taken away, one great cause of, and provocation to the eclampsia, will be removed along with it. By the words "soon as possible," I mean as soon as it can possibly be done with propriety. Of that propriety the accoucheur must be the judge—yet no one can be held excusable who absolutely forces the os and cervix uteri. This is a doctrine on which Dr. Dewees used to dwell with great emphasis. The os uteri is never to be forced. But there is a wide difference between forcing it and persuading it to yield. It may be prevailed against by means of the relaxing influence of belladonna ointment applied to its surface, aided by gentle dilatation with the hand. But I am lapsing into a discussion in Obstetricy, and shall therefore cut it short by bidding you farewell.

C. D. M.

LETTER XLV.

THE BREAST. MAMMARY ABSCESS.

Gentlemen: I found her lying in bed, and looking dull and dispirited when I entered the apartment; whereas, I had parted from her two days before in excellent spirits, proposing to get up on the morrow; for by that time, her ninth day, the *dies nondinæ* would be complete. The child was in health; she had had an excellent labor; the flow of milk was abundant; and not the slightest untoward event had occurred up to the end of the eighth day.

"I am sorry to find you have been obliged to send for me, my dear Mrs. ———. I left you so well the day before yesterday, that, being much occupied, I thought I might lay aside my daily habit of coming to make you a salaam in the morning; you know that I have had nothing else to do here since the birth of the infant. You were cheerful and happy when I saw you last; but now you look downcast and apparently sick. What can be the matter with you?"

"I have been quite sick, doctor, since yesterday afternoon."

"What! quite sick, and I not notified of it? Did you not say, did not this nurse say, did not Mr. B——— say that if, at any time in the whole course of the month, you should be seized with any symptom whatever, great or small, I should immediately receive a note, informing me of it? Here now, you've been sick almost twenty hours before I am made aware of it. Was this just to me? Was it just to yourself and your friends? However, I suppose it will always be so with everybody, since I have found it so with everybody for forty-five years!"

"But the Doctor will please to observe that we did not like to trouble him. It was thought that the indisposition might readily pass away; and, indeed, I do feel a little better now than I have done in the night, or the early part of the morning."

"But what has been the matter with you? What have you complained of since yesterday afternoon?"

"I was taken with a chill, sir, at two o'clock, and I could not get warm for near two hours. This was accompanied and followed with pain in the head, in the back of the neck, and in the limbs, that I could hardly endure, after which I became so warm that I was obliged to throw off some of the coverings."

"Have you any pain in the stomach or bowels?"

"No sir, not the least."

"Can you draw up and extend the lower extremities without pain? Try it; does it hurt you?"

"No, sir."

"Cough—I wish to know whether, if you cough, it will give you any pain in the lower part of the bowels. There! that will do. Does that hurt you?"

"No, sir, it does not."

"Make a great aspiration of air for me. Breathe hard. Any pain?"

"Not the least, sir."

"Which of the breasts hurts you?—the right or the left one?"

"My breast doesn't hurt me, doctor."

"Yes, it does."

"No, doctor!"

"But, I am sure that it does; and that the cause of your chill, and of the heat that you have had all night, and that you still have—for your pulse is quick—is seated in one or more of the branches of the milk tubes. Will you let me touch the breast?"

"Yes, sir."

"There, now, it hurts you at this point, does it not?"

"Ouch! Oh, yes, sir, very much indeed! Why, I did not know that I had anything the matter with the breast!"

"But I did, you see."

"Yes, I see that you did. It is very strange that you should know that I had a pain, when I myself didn't know that I had it!"

"No, it is not at all strange; it is very easy to know that; because it is very easy to perceive in the rate of your pulse, your breathing, your heart; in the tint of your complexion; in your physiognomical expression; in your gesture and attitude; in the absence of pain in the abdomen; in the state of your intellect, evinced by your answers to my questions, that nothing else could be the matter with you. In fact, as soon as you said, 'I had a chill yesterday afternoon,' I knew that you had an attack of what the ladies and nurses call *the weed*. You have got a milk-fever, my dear."

This conversation happened yesterday morning, Nov. 20th, 1847. To-day the patient is very well again, for the weed has disappeared; that is to say, the milk which had accumulated in excessive quantities in the lactiferous ducts of the mammary gland, or rather in certain of them, has been carefully drawn out; and the tension, pressure, irritation, intension, affluxion, heat, sensibility, redness, and swelling, all disappeared upon its evacuation.

I have been practicing my art now for a great many years, and I must have seen some hundreds of persons lying sick as this lady was; some of them with intense fever, cracking headache, intolerable pain of the nucha, back, and limbs; not unfrequently with nausea and vomiting; and all this mixed up with distressing flying rigors—to whom I have said at once, "You have got a lump in your breast;" to which it has often been replied: "No, I have not."

"Yes, you have."

"No, indeed I have not."

"Indeed you have." Whereupon the nurse rejoins: "Oh no! there is not any at all, for I examined the breast very carefully but just now."

"Let me examine it. There now, does *that* hurt you?"

"No, not at all."

"Does not *that?*"

"Oh! dreadfully, dreadfully indeed!"

"I told you so. It could not be otherwise. How should it be that I should not understand my business? I could tell you had the weed in your breast, if you were in the moon, and I were looking at you with a spy-glass."

If you are going to practice midwifery, my young friends, you will have to submit to the aid of what are called nurses; and suppose you should meet, during your career, with a thousand different ones, you will not find more than two or three of them that ever saw a gathered breast. A man would as soon acknowledge that he had stolen a sheep as a nurse confess, in general, that such an accident had ever befallen one of *her* patients. I saw a little darling of a woman here, about two months ago, more patient than St. Anthony—who had been about two weeks confined. I had not seen her for four or five days. Upon receiving a summons, I repaired to her house, and found her complaining of pain on giving suck to her child;—pain in the nipple, extending back over the breast, towards its upper and exterior circumference. I took the breast between my thumb and four fingers, so as to compress the gland in the direction of its latitude or breadth, and found that gentle pressure gave her very severe pain. Upon touching it perpendicularly, I discovered a mass of solidified texture, about two inches and a half in width, by three and a half in length; and, when I learned that she had had uneasiness in the breast for four or five days, I said to the nurse: "Did I not charge you to inform me if anything should be the matter with my patient? telling you to watch her in my absence, in order that I might have the earliest intimation of any accident or disorder that might affect her? Your disobedience has brought her in danger of a mammary abscess, which may make her ill for three, or even for six weeks, during which she will experience much pain and constitutional irritation. You have done very wrong; you have failed entirely in your duty to this person, who employed you to take care of her;—you have *not* taken care of her. I am afraid that she'll have a gathered breast, notwithstanding everything I can now do to prevent it."

"Not she, doctor!" replied the nurse, "not she, indeed! I have nursed for twenty years, and I have never had a gathered breast yet, in anybody that *I* took care of."

"Very well, Mrs. Nurse; you are about to extend the area of your experience, in this very case; for I think it is very likely that you will have two; and I wash my hands of them; for the blame is yours, and nobody else's. The right breast is gone so far that I have no hope of curing it, short of a suppuration. The left one is inflamed, and the fever that your patient is going to have will cause it also to suppurate, or I am very much mistaken."

This poor lady had two of the most detestable mammary abscesses that I have seen for the last four or five years.

Now, I have related this story to you for this purpose, namely, as an

introduction to the precept, watch your patient yourself; for you cannot get anybody, for love or for money, to do your work as it ought to be done. You may lay down the most definite, clear, precise directions as to the management of the breast, and you will be sure to be disobeyed. If the breast will take care of itself, and not get into disorder, it is well; but, it is very apt indeed not to take care of itself, and to subject you to the mortification of an attendance upon a mammary abscess—always the source of displeasure, disappointment, and irritation in the family; and, to a certain extent, of blame to the physician. It touches the nurse in a point of honor to suppose that her patient could have a gathered breast, because she considers that her official function consists in taking care of the breast! and you might as well tell a physician that he does not understand the Harveian circulation, as to express any doubt as to the competency of the monthly nurse to the entire charge of all the circumstances connected with lactation. I should in vain endeavor—devoting many pages of this letter to the purpose—to express the thousandth part of the vexations and mortifications that I have experienced for more than thirty years, from the ignorance, carelessness, and presumption of those in whom I have been obliged to put my trust. There are happily some nurses one can trust; but their name is not legion.

But, I began this letter, designing to speak of the management of the female breast; let us proceed, therefore, to inquire what the breast is, its condition in gestation, and in the lying-in state; and what are the cares that it demands at the hands of the medical attendant; and the first thing you have to do in the matter, if you will be an accoucheur, is to purchase or borrow a copy of Sir Astley Cooper's *Treatise on the Female Breast*, which, though it costs about twenty dollars, is worth a thousand to a man who is to be engaged in this line of practice. That book will show you that beneath the skin on the front of the chest there lies—one on each side—a fascia, which sends up fibrous and cellular digitations to attach it to the inner surface of the derm. Between these frequent digitations exist many adipose cells, that often are found to contain great quantities of fat, so that, between the external surface of the fascia and the internal surface of the derm, is a chosen seat for the deposit of the adeps that gives to the breast its beautiful hemispherical form, its smoothness and softness. Within this fascia, of which I just now spoke, are to be found fifteen, and in some instances as many as twenty-one efferent ducts of the granules of the milk gland, or mammary gland. Each of these ducts, called milk-vessels, passes out of the gland through the skin at the extremity of the nipple. The nipple is, in fact, a fasciculus of milk tubes, or galactophorous tubes, which are

gathered up into a bundle, and protected amidst a number of blood-vessels, some cellular tela, nerve fibrils and absorbents, within a very delicate derm, and a cuticle that should rather be called an epithelium. There is also a good supply of apparatus of sebaceous secretion, by means of which the delicate surface of the nipple is kept in a soft and unctuous state.

Each one of the milk tubes contained within the fascia of the gland runs right and left, or obliquely or perpendicularly upwards, or downwards as it divides into numerous branches, becoming finer as they go inwards from the nipple, and successively dividing, until each of the minute tubuli terminates in a spherical hollow granule, big as a white mustard seed, from the inner surface of which the milk is secreted; for that is the secreting surface of the milk. Fifty, one hundred, or any given number of these granules are appropriated to the supply of a quantity of milk sufficient to fill up and distend its own galactophorous tube, whose issue is found upon the extremity of the nipple.

If you had a syringe filled with delicate size colored with vermilion; and if you should introduce the point of the syringe into one of the milk pores upon the end of the nipple, you might inject the milk tube, and distend it so much as to make it swell out to the size of a large swan quill, or, in some instances, to the size of your little finger. If the material of the injection should run inwards into every branch of the galactophorous tube, so as to fill each granule at the extremity of its branch, you would make a beautiful injection of that part of the lactiferous apparatus. If you should afterwards fill the syringe with other colors, green, black, blue, yellow, orange, violet, indigo, or any of them, you might inject, in succession, each of the fifteen or twenty-one porules at the end of the nipple, with a different colored mixture, and thus fill up the breast completely with various colored injections; each of which would run off to the branches of *its own* particular galactophorous tube, and nowhere else; so that you might say, as in boxing the compass, this one runs north, this one north by east, northeast, southwest, south and by east, northwest, west, and so on, until you have indicated the direction of each tube separate and distinct. Such is the anatomy of the breast. It is explained by Sir Astley Cooper in his delightful work on that subject.

Now, these galactophorous tubes are supplied with the force for secreting an immense quantity of milk, consisting of a mixture of water, albumen in solution, casein, and oil which you call cream. I have seen a woman, using a common breast tube, draw out two large tumblerfuls from one breast, at one sitting; not that she had two large tumblerfuls in the breast when she began to draw it, but that she began to form,

and continued to pour out this peculiar compound which we call milk, until the power of the gland to produce it being exhausted, it at length gave up the last drops; demanding rest for half an hour or an hour, until recovering its secretory power, it was ready to give up as much more. A good cow has an udder, which, if you could cut it off, you could readily put it into a very small pail; yet this same cow is capable of giving sixteen quarts at a drawing, which may serve to show you the rapidity with which these extraordinary organs are capable of pouring out the material that serves for the nutrition of her young.

It must be clear to your minds that such a great functional force cannot exist independently of a vast supply both of blood and of nerve. Accordingly, numerous arteries come from within the axilla, and from the internal mammary artery; and a great variety of nerve fibrils, some of which are connected with the sympathetic, pass from within the chest, while others connected with the axillary branches, ally it to the cerebro-spinal system of innervation, serving to connect the mammary gland with the whole nervous constitution of the woman, and render it in the highest degree liable to those development-movements that result in sanguine engorgement and inflammation.

At the period of puberty, among the first signs of the change about to be effected in the constitution of the young girl, those that take place in the breast are observable: the granules of the gland, and its efferent ducts the galactophorous tubes, acquire a more positive development; and the hemisphere of the mamma begins to rise from the general surface of the bosom. But it becomes protuberant, rather from an increased amount of the deposit of adipose matter among the cellulo-fibrous digitations of the gland, than from actual development of the substance of the glandular matter itself, although that does, as I have said, increase a little. The nipple, at this period, is very small and is seated in the centre of the areole, which is a reddish or rosaceous area, extending from the base of the nipple a certain distance on the organ, in general not more than half an inch from the nipple, in every direction. Observe, that it is of a rosaceous hue, deeper or paler, according to a sanguine, or lymphatic, or nervous temperament of the subject. As the young girl becomes more and more perfectly developed, the breast becomes more and more augmented in size; so that you should expect a person of eighteen or twenty to have a larger one than a girl who has just changed.

The breast is, in general, possessed only of such sensibility as appertains to the tactile power of the skin everywhere; but, upon particular occasions, it is different. For example, many young persons at the approach of, or during the mensual period, find the breasts a little

larger and fuller, and more sensitive, and affected with sharp pains and aching, disappear when the catamenia begin to flow freely, and reappear at the next mensual epoch.

When a woman becomes pregnant, the breast very speedily begins to grow larger; the fat deposited upon it is sensibly increased in quantity, and if the gland be taken between the thumb and four fingers, it is found that the fascia which incloses the material of the gland is fuller, rather tense, and has a more granular feel than usual: in many, it feels as if it were full of strings or ridges, giving in some instances a sensation as if one were touching hard earth-worms beneath the skin. At the time this process of augmentation within begins, the aureole increases its area, and what is very singular and worthy of your observation, the corpus mucosum of the skin beneath the aureole acquires the power of excreting pigmentum nigrum; just as if the corpus mucosum had now become endowed with a pigmentary membrane like that that lies beneath the skin of a Negro, a Malay, or an American Indian, but which does not exist beneath the skin in the Caucasian races. In some women, the breast grows fat at such a rate that the skin is pushed off further and further from the fascia which incloses the gland; and the milk tubes within, whose termini are upon the nipple, fail to stretch or elongate themselves *pari passû* with the rise of the skin. The nippple in this case seems to be drawn inwards, so that, instead of its being a prominent mammilla upon the breast, there appears a depression like that which the carpenters call a countersink. This countersink of the nipple is produced in the same way as the pit is produced in the navel of the young growing child; for as the navel is held in, according to Billard's description, by the remains of the two umbilical arteries and the umbilical vein, so the countersunk nipple of the female breast is detained within by the unyielding galactophorous tubes, which refuse to be elongated while the rest of the tissue is being stretched. I suppose, gentlemen, that if our American ladies were in the habit of supporting their bosoms with the pretty Greek strophium, or the Roman fasciola, which women were accustomed to wear in the olden time, there would be less occasion to deplore the frequency of this troublesome retraction of the nipple. If the breast were left free to grow in all its parts, it is likely that the nipple would be produced, along with the rest of the tissues, but the wearing of corsets and busks must necessarily interfere with the development of the organ, and lend a material aid to the nipple in its refusal to come forward along with the rest of the structures.

A young married woman, who should become pregnant, and who should find that her nipple is becoming countersunk in this way, ought

to apply to the point of the breast a concave disk of very thin hammered silver, three inches in diameter, with an opening sufficiently large to allow the nipple to pass freely through it, and having a cylinder, a quarter of an inch in length, soldered upon the edge of the opening. The concave of the disk would adapt itself to the form of the areola of the breast, and the nipple projecting through the opening, and protected by the cylinder, would have a constant tendency to come forward, and draw with it its whole fasciculus of galactophorous tubes; so that, at the termination of the gestation, the nipple might be found in a fit condition to be seized by the lips of the child, instead of both vexing it and tormenting its parent with vain attempts to get it into the mouth. I have seen several women who could not nurse at all on account of this shortness of the nipple. All such are liable to irritation, and even to suppuration, in consequence of the impossibility of expressing the milk, formed in abundance by the granules of the gland; and from abrasions and cracks of the nipple, produced by repeated and protracted attempts made with breast-tubes and pumps and various apparatus for what is called drawing the breast. After the above explanation, should you be consulted beforehand as to the treatment of the affection, I should think you will have no difficulty in giving directions conformable to the wants of the patient.

Ladies will sometimes ask you whether it is advisable to have the nipple drawn by a young puppy, or by the mouth of a friend or servant. Let your answer be, that God is all wise; that he could not make a mistake; and that if it was necessary to have the nipple drawn before the child was born, he would have had the child born before its birth. All the laws of life are generic laws; they cannot err; and it is perfectly ridiculous for a mere human reason to dare to be superior to the will of God, as it is expressed in the simple words, "the laws of nature." Tell her to let it alone; it is just as reasonable to draw the nipple beforehand as it is to give ether to put a stop to the natural pains of labor. Let her know, that after her child shall be born, she will, after the third day, or earlier, put it to the breast; and that the moment the child begins to irritate it with the tongue and lips, she will begin to feel an after-pain—that is a contraction of the womb—for there is surely a connection between the breast and the uterus which affects them both interchangeably. To draw the breast, therefore, is to expose herself to the risk of exciting the action of the womb before the time. Surely, to draw the breast is to risk exciting the womb into muscular activity.

Somewhere between the first and the seventy-second hour after the birth

of the child, the fluxional movement towards the mammary gland begins to take effect; and the determination of the developing-force proceeds in the direction of the secretory offices of the granules, manifesting itself by the production of the milk. The fluid when secreted flows into the great tubes of the breast, making it hard, voluminous, hot, weighty, and painful. The whole of the gland being contained within its fascia, and being now greatly increased in weight, hangs suspended upon the skin on the front of the thorax. From its weight it prolapses, stretching the skin, and often increasing the pain of the gland in consequence of the unequal tension of the several parts of it, caused by the descent. On this account the breast should always be held up; it should never be allowed to hang by its own tissue. You would not think of treating an orchitis without a suspensory; nor should you think, in like manner, to take good chirurgical care of an overfilled breast without providing good means for its support. A Greek or a Roman girl always supported her breast by means of the strophium or the fasciola, which passed beneath it —you should provide a strophium for your patient. The most convenient one that can possibly be devised is, in my opinion, a linen strip of adhesive plaster, half an inch wide and ten inches long. Place it upon the skin behind the breast on the side: it should then be attached to the hemisphere, which is to be held properly upwards, and the upper extremity being next carried upwards near the clavicle, should be adapted in such a way as to assist the corium to hold up the heavy breast, which is surcharged with fat, and granules, and bundles of milk tubes. Sometimes, one adhesive strip suffices, though I occasionally put on two or even three, in order to give a perfect support. This is far better than all the jackets, and corsets, and pocket-handkerchiefs that can be devised—I mean for the early stages of the lactative breast. The adhesive strip should be reapplied every second or third day. Hold up the breast, then, with the adhesive strip or *fasciola*.

In most cases, you would think a suspensory a sufficient remedy for an orchitis; in like manner, you will find that an adhesive strophium is a sufficient remedy for the slighter irritations of the female breast. You may apply it so as not only to support, but gently and favorably to compress the whole organ.

When the breast becomes overfilled, its sensibility is so greatly increased that the woman does not willingly suffer it to be touched. You will often find it incompressible, and actually shining from the polish of its tension. It has now a power to irritate the nervous and vascular systems equal to the power of an immense imposthume or abscess; and the constitution will be found to react upon it, and the woman will have a fever ushered in with rigors, or even with a severe ague. These rigors

and this fever, like those of an ordinary intermittent or remittent, terminate in copious perspiration.

The fever is not a tertian, it is an ephemera; it terminates after a course of nineteen hours from the beginning of the cold to the end of the hot stage: this is its natural course. But still, a milk-fever, though so short-lived, is never a matter of indifference; because, a milk-fever attacks the constitution of a woman already greatly modified by gestation and labor and the puerperal state; and if the violence of the vascular movement happen to be very considerable, or, if there have been any topical lesion, or any accident that may have happened in the course of the labor, it is apt to invite the fluxional movement upon itself, and thus become a new radiant point, whence inflammation may extend into the depths of the tissues, or along their surfaces.

Don't say, therefore, "it is only a milk-fever, and requires no special care;" but give it the attention it may deserve. If the milk-fever should be progressing favorably, and manifest a tendency to run out its natural course and terminate at its ordinary term of nineteen hours, your only duty would be to watch it, and take heed that it do no mischief within the bounds of the economy. Remember, the milk-fever is a constitutional irritation developed from a radiating point, *videl.*, the over-sensitive, over-tense tissue of the mammary gland; and see, in this reflection, that one indication of treatment is to deprive the breast of this pathogenic power. Well, but to deprive it of this power which depends on the *tension*, you must make the tissues as flaccid as possible. How? What is it that chiefly renders it tense? It is the twenty-one milk tubes whose trunks and branches are all distended to the extremest degree of tension, because they contain at one time eight or ten ounces of milk, constituting, perhaps, one-third of the whole weight of the organ. Take the milk out, and the breast that you could not indent with the palps of your fingers will be left perfectly flaccid, completely cool, and admitting of the freest palpation and handling, without the woman making any complaint.

Tell the nurse to put the child to the breast often. How often? As often as it is necessary. How often is that? As often as the breast becomes hard. For thirty years past, I have told my monthly nurses these things; perhaps in these very words; nevertheless, I cannot, to this very hour, go into a lying-in room, where I find a breast in a state of tension, and the constitution in a state of fever, without being told, "I did draw the breast, doctor; the child took it this morning."

"How long ago, nurse?"

"Why, at seven o'clock."

"What o'clock is it now? twelve, is it not?"

"Yes, it is twelve o'clock."

"So you drew the breast five hours ago, did you?"

"I drew it at seven o'clock, sir."

"And it has been as hard as a paving stone ever since. Can't you see that if you let the breast remain hard it will inflame? This fever will increase and not lessen, and you will expose your patient to the risk of having a mammary abscess, or gathered breast, as you call it."

"Oh! never do you mind, doctor; I never had a gathered breast in my life. Do you think I ever allowed a patient to have a gathered breast?"

Excuse me, gentlemen, for writing in this style, for I have at this moment under my care, two mammary abscesses produced by the faults of two most excellent monthly nurses.

I am sure that *you* will be able to appreciate the importance there is of keeping down this mammary tension; for, if it is not kept down, the tissues must inflame; and inflaming under such circumstances of great constitutional fluxion, you will not be able to avert the mischief of the threatened suppuration, except at the expense of the most vigorous antiphlogistic means. To draw the breast *now*, and not by and by, is to save the patient from venesection, from leeching, from cathartics, from a disgusting series of poultices, and all the pain and exhaustion of protracted and difficult mammary suppuration. Take heed of it, then: see if you shall be able hereafter to be more successful than I, in making the patient herself, or those that attend on her, comprehend the true influences of mammary tension. If I could give you in this letter but a just notion of the meaning of the words *mammary tension*, I should think you were well rewarded for the perusal of the whole volume, though you got not another useful hint out of it.

When you find that the tension of the breast produces a constitutional reaction of great violence, and that the fever is accompanied with headache, pain in the back and loins, aching of the limbs, and frequent rigors, you should look upon it as a serious matter; which, though it be nothing more than a milk-fever, exposes the woman to the risk of dangerous local engorgements and inflammations.

You should lessen this constitutional reaction by opening a vein in the arm; by the exhibition of a cathartic medicine, whether saline or other; by proper doses of the neutral mixture, and by insisting upon the free use of demulcent and diluent drinks. If you allow the fever to rise to too high a grade, it may be feared that, instead of coming to its term in nineteen hours, it will become a continued fever, which will have an inflammatory character, and which may plague you for a week

or ten days; involving you in the constant necessity of watching over the patient, and exposing her to the greatest risks.

Sometimes the breast becomes so hard, so rebellious, that it is found impossible to extract the milk from its tubes; they crowd each other, acting as compressors upon each other; making it impossible to remove the accumulation. Under these circumstances, the nipple is apt to become irritated and even inflamed. The frequent sucking of the nipple by the child, or by various instruments invented for the purpose, produces cracks and abrasions of the surfaces, and then you have an ulceration established upon an inflamed base. Were the ulceration seated upon a non-inflamed base, it would cure itself: but you will no more cure the nipple-sore while the whole mass of the nipple itself is in a state of inflammation, than you will cure a cancer-sore while the ulcer is seated upon a carcinoma. I do not mean that it is incurable as the cancer-sore is, for the nipple will at last get well, having in it no heterologue character; the cancer will not get well, for it rests upon a heterologue base.

You can have, at present, no idea of the vexations that women endure in nursing their children in the month from sore nipples; a complaint so common, that I am surprised when I hear one of my patients say she does not suffer from it.

The sore-nipple most frequently consists in a long, narrow ulcer, wide as a horsehair, and a sixteenth or sometimes an eighth of an inch long, situated on the side of the nipple. This ulcer is so small, that it requires a good light to see it; and even then it often cannot be detected, except by bending the nipple over to the opposite side, which discloses it. The ulcer is, at most, a narrow line of painful granulations; and it hurts the woman so very much as to render her unwilling to suckle the child as often as it should be done; which exposes her to the risk of having an overfull breast. I think it very probable that many cases of mammary abscess owe their origin to the reluctance of the mother to encounter the pangs of suckling the infant while these fissures or cracks of the nipple are uncured. When one of them occurs in a nipple, the whole substance of which has become inflamed and hardened, it is very difficult to cure it; and it is even difficult to prevent it from increasing both in length and breadth, since as often as the child takes the nipple into its mouth to stretch and to pull it, so often is the sore liable to be augmented. The pain is represented to be of the most intolerable kind; and it must be, indeed, most insufferable, if one may judge from the appearance of the mother, from whose eyes tears are seen to stream as she submits to the pain. I have often imagined the pain to be, in intensity, very similar to that which

one feels who has received a bit of sharp angular sand in the eye, and which vellicates the lids of the globe, whenever they are moved, producing a pain and irritation that are truly intolerable. The sore would disappear I presume, in forty-eight hours, were it not for the necessity of drawing the breast.

In treating such a sore, I generally avail myself of the antiphlogistic and anodyne power of the nitrate of silver, the contact of which is, in some instances, sufficient to make a speedy cure, where the massive inflammation of the nipple will admit of the cicatrization of the sore.

It is a matter of great consequence to touch only the granulations, and not the skin itself. To this end I take a fine camel-hair pencil, and, dipping it in a solution of the nitrate, I carefully pencil the granulations only; for I find it easy, with the delicate point of the pencil, to make the application exactly to the points I desire to touch. A solution of twenty grains to an ounce is strong enough. You will find, in many instances, that the extreme sensibility of the sore is lessened so much by one contact of the nitrate as immediately to enable the woman to give suck to the child with much greater comfort.

Mrs. De Groot, a monthly nurse here, a most sensible woman, in whose prudence and knowledge of her business I can confide, tells me that the nipple rarely becomes sore under her method of managing it. As soon as the child has left the nipple, Mrs. De Groot invariably cleanses it with a bit of moistened linen. She dries it perfectly, and then, taking the mamilla between the thumb and two fingers, gently compresses it, with a view to assist it in disengorging its capillary vessels that are turgid from the suction. As soon as she has rendered it soft and flexible again, she covers it thick with fine arrowroot powder, and keeps it in that way perfectly dry. I do not remember that the ladies she has nursed for me have, any of them, suffered from this annoying disorder.

Dr. Physick taught me to cure a very bad nipple-sore in a patient he attended with me. He prepared a very delicate adhesive strip by spreading adhesive plaster on a narrow ribbon, called by the shopkeepers *taste.*

"These gaping ulcers," said he, "are like gaping incised wounds. Their edges are separated too much; they will therefore require a far greater quantity of granulations to heal them than if the edges should be approximated—bring them together then with the delicate strips of adhesive plaster, and keep them so—they will get well much sooner." This advice was followed, and the effect was soon perceived in the amendment of the lady.

Most of the French physicians use, for the treatment, an ointment

made out of the juice of cucumbers—the *pommâde de concombres*—and it certainly is one of the most emollient of the ointments. A good deal of it is employed here. In order to be useful, it should be freely applied.

Borax, dissolved in mucilage of slippery elm, is a very pleasant wash. It should be put into a salt-mouth phial, the throat of which is large enough to receive the nipple. Let the phial be turned up on the nipple as soon as the child leaves it. If held thus to the nipple a few moments, the whole surface is effectually moistened by the wash.

Dr. Vanderpool of Albany, New York, who formerly attended my lectures in the college, writes lately that he has very little trouble in healing the sore nipple, whereas formerly he had experienced much difficulty in curing his patients. The method he uses is, to smear the aureole frequently with an extract of stramonium.—If carefully wiped off before giving suck it does no harm to the child, while it speedily relieves the mother.

Where the nipple has been greatly inflamed and swollen, I have on many occasions directed a number of leeches, six to ten, to be applied just outside of the areola. For this end, I cut a disk of linen, or of diachylon-plaster to fit the areola, leaving a fenester for the nipple. The leeches cannot puncture the areola itself, if this precaution be taken—but their bites are all made beyond the circumference of the disk. You should not allow them to wound the aureole, because it renders the act of sucking more painful, and because the erythema that always attacks the leech-bite would pass on to the nipple and aggravate, instead of diminishing, its inflammation.

It is very bad when the end of the nipple becomes abraded and inflamed, for then the inflammation runs along the milk tube deep into the substance of the mammary gland; and when it does so, a great difficulty is encountered in effecting a cure, short of the process of suppuration. When the end of the nipple, therefore, is abraded and ulcerated, you should give it a most careful attention, with a view to prevent so great a misfortune.

Inflammation of the mammary gland, tending to abscess, is a warrant to order a venesection for a woman who is strong enough to bear the loss of blood, and there are few who are not strong enough, since those who are not, will, in general, not be found prone to these inflammations. You ought not then to hesitate to bleed for an inflammation of the gland, when the disorder threatens to be severe.

Leeches freely applied, if they be not set upon an inflamed portion of skin, are very laudable. Many a hard nodule, threatening milk

abscess, has been removed by twenty or thirty leeches; the operation to be repeated if the case demand it.

A poultice is manifestly a useful remedy. But poultices long applied to the delicate skin of the mamma are apt to bring out an eczema that adds to the discomfort. I think I have never had any such additional trouble when I used a poultice made with bread and milk thickened with the petals of chamomile. It is a habit or routinism of my practice, and I venture to recommend it to a trial under your direction.

When the breast must suppurate, it ought to be favored by the use of demulcent poultices. Powdered slippery-elm makes a good one—so does flaxseed meal—but probably none is better than bread and milk with chamomile.

When the suppuration has taken place, the matter ought to be discharged by means of a lancet, as soon as the abscess fairly points. When the cavity is become empty by the discharge of the pus, let the breast be compressed by means of strips of adhesive plaster, which constitute the most convenient suspensory and compress for the organ. I am confident the use of these adhesive strips has enabled me many times rapidly to cure a breast, which I should vainly have endeavored to cure in double the length of time by any other kind of dressing.

The breast having suppurated, and the pus being discharged, whether by a spontaneous opening or by means of the lancet, milk is sometimes seen to flow out together with the purulent matter. Such a waste of the milk prevents the aperture from healing; and the cavity of the abscess becomes a milk-fistula, which continues for an indefinite period to discharge milk. When I find such a one, I push to near the bottom of the canal a very small bougie, made extempore of cere-cloth. Filling the orifice of the fistula, and probably irritating the internal granulations to a more healthful activity, the bougie, generally, soon arrests the flow of milk from the orifice. The bougie becomes daily shorter at each successive repetition, and the fistula heals.

If a woman have a suspicious nodule of long standing, in the breast, she ought not to nurse the child. The constant alternations of fulness and flaccidity, and the augmented vital activity required to carry on the secretion of the nutriment, expose her to the danger of an inconvenient increase of the tumor, and to inflammation radiating from its superficies. Let her wean the child, by giving it to a wet-nurse.

If you decide to remove the tumor or nodule by the bistoury, let it not be done until the milk has completely disappeared. The breast is not fit for the surgeon while it is a secreting gland.

And now, having nothing further to propose as to the breast, I shall bring this letter, the last of the series, to a close.

I wish, my dear friends, these letters were more worthy of your perusal; and I might, doubtless, have rendered them so, had I allowed myself, which I could not, more leisure from the daily business of my vocation, for their composition.

Many of them have been written while waiting on women in labor; and most of them at night, after the toils and anxiety of the day's practice; more than half of them, while suffering under an unspeakably distressing hemicrania. But I had made the promise to write and publish a series of letters to you, on the subject of Woman and her Diseases—letters in which I would speak as nearly as possible in the same tone and manner I should employ in speaking on the subjects, with any one or two of you in my library here, where I am now writing. I have used that very manner in these communications; and you, who remember my manner of speaking to you in the lecture-room, will be able to judge whether or no I have done right in using a style as simple and natural as that you have been accustomed to in my public instructions.

Some critics have blamed me, and some endeavored to ridicule me for using so familiar a method, and as I am aware that no man has a right to print a bad book, nor even to apologize for faults in any book of his own making, I do not pretend to do so on the present occasion. I do, however, feel desirous that you should not forget the scene and the occurrences that so suddenly prompted me to engage in this task; nor overlook the fact that I did not begin these letters of 666 pages until about the middle of last May.

I have found the mechanical labor of it severe,

> "Sed tua me virtus tamen, et sperata voluptas
> Suavis amicitiæ, quemvis efferre laborem
> Suadet; et inducit noctes vigilare serenas
> Quærentem dictis quibus, et quo carmine demum
> Clara tuæ possim præpandere lumina menti
> Res quibus occultas penitus convisere possis."

These beautiful lines of the poet Lucretius, I quote from the Treatise *de Rerum Natura*, and I do so in order that the dead Roman might speak, and say, in better language than any I could indite, how strong the motive that has induced me to this labor. Pray, then, receive this work of his head, his heart, and his hands, from your former Instructor, with kindness, and assist him to invoke for it the favorable consideration of all our brethren of the Medical Profession, who I hope will see in it the evidences of a sincere desire to promote the usefulness, and therein the dignity of our honorable vocation.

I pray you ever to look upon the medical profession, not as a business, but as a great Morality—not as a trade, but as a Mission appointed by God, for the benefit of the children of men.

Farewell, dear young gentlemen, and believe
me, affectionately, your friend
and respectful servant,

CHARLES D. MEIGS.

PHILADELPHIA, 26*th Nov.*
324 Walnut Street.

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